THE UNIVERSITY OF NORTH CAROLINA SYSTEM

New Academic Degree Program Request to Establish

Institution _____University of North Carolina at Charlotte_____

Degree Program Title (e.g., M.A. in Biology) _____M.S. in Artificial Intelligence_____

Reviewed and Approved By (Provide Name and title only. No signature required in this section.)

Review	Name	Title
Faculty Senate Chair (Or appropriate body)	Xiaoxia Newton	Faculty Council President
Graduate Council (If applicable)	Concepcion Godev	Professor and Graduate Council Chair
Graduate/Undergraduate Dean (If applicable)	William Tolone	Dean of the Graduate School
Academic College/School Dean	Bojan Cukic	Dean College of Computing and Informatics
Department Head/Chair	Min Shin	Department Chair for Computer Science
Program Director/Coordinator	Harini Ramaprasad	CCI Associate Dean

New Academic Program Process

New academic programs are initiated and developed by faculty members. The Request to Establish a New Academic Degree Program must be reviewed and approved by the appropriate individuals listed above before submission to the UNC System Office for review.

Please provide a succinct, yet thorough response to each section. Obtain signatures from the Chancellor, Provost, and Chief Financial Officer, and submit the proposal via the PREP system to the UNC System Vice President for Academic Program, Faculty, and Research, for review and approval by the UNC System Office. If the Request to Establish is approved by UNC System Office staff, it will be submitted for review and approval by the UNC Board of Governors.

UNC Institution Name	University of North Carolina at Charlotte
Institutional Accreditor (e.g., SACSCOC)	SACSCOC
Joint Degree Program (Yes or No)? If so, list partner.	No
Degree Program Title (e.g., M.A. in Biology)	M.S. in Artificial Intelligence
CIP Code and CIP Title (May be found at National Center for Education Statistics)	11.0102
Require UNC Teacher Licensure Specialty Area Code (Yes or No). If yes, list suggested UNC Specialty Area Code(s).	No
Proposed Delivery Mode (campus, online, or site-based distance education). Add maximum % online, if applicable.	Campus
Will this program be offered by an outside provider such as an Online Program Manager (OPM) or Project Kitty Hawk (PKH)? If yes, list the provider.	No
If requesting site-based delivery, indicate address(es), city, county, state, and maximum % offered at site.	
Proposed Term to Enroll First Students (e.g., Fall 2023)	Fall 2026

Do the following sections of your previously submitted and approved Request for Preliminary Authorization to Develop a New Academic Degree Program document require any change or updated information? If yes, note the items and explain.

Category	Yes or No	Explanation (if applicable)
Accreditor Liaison Statement	No	
Review Status (campus bodies that reviewed and commented on Letter of Intent)	No	
Program Summary	No	
Student Demand	No	

Access and Affordability	No	
Societal and Labor Market Demand	No	
Doctoral Specific Questions	NA	NA

I. Program Summary

a. Describe the proposed program, including the overall rationale for its development. Include a discussion of how this program supports the specific mission of the institution and of the broader UNC System. Why is this program a necessary addition for the institution?

Program Description

The Master of Science in Artificial Intelligence program provides students with advanced skills and knowledge in planning, design, implementation, testing, and management of AI systems, applications, and infrastructures. Graduates with this degree will possess comprehensive training in core mathematics and AI algorithms, the AI software lifecycle, ethical considerations, as well as communication and teamwork abilities. The program features a wide selection of advanced courses that cover the latest developments in the ever-evolving field of AI. Students in the MS in Artificial Intelligence program are encouraged to utilize elective courses to explore additional disciplines, thereby enhancing their capabilities in creating practical AI solutions.

Rationale for Development:

- **Employer Demand:** Favorable employer demand indicates ample opportunities for program graduates in statewide and regional labor markets. EAB identified 6,508 statewide and 28,224 regional AI-related job postings between February 2024 and January 2025. Notably, 33.68% of the statewide postings and 38.79% of the regional postings specifically seek candidates with a master's degree, highlighting the need for advanced AI education.[1]
- **Industry Growth**: Generative AI job postings have increased significantly. Software development demand is rising due to AI integration, and data scientists and machine learning engineers are becoming critical. AI skills are essential in cybersecurity, IT infrastructure, and digital transformation, with healthcare and finance experiencing a surge in AI-driven automation and innovation.[2]
- **Student Interest**: Existing AI-related programs, such as the MS in Computer Science with a concentration in "AI, Robotics, and Gaming" and AI-related courses demonstrate strong and sustained student interest. See Appendix C.
- **Statewide Educational Gap:** A Master of Science in Artificial Intelligence is needed to fill a critical gap in the state's higher education offerings, as no UNC system institutions currently provide a dedicated Master's degree in AI to meet growing industry demand.

Support for the Institution's Mission:

- The program aligns with the university's mission as a leading urban research institution with a substantial local-to-global impact. It prepares students to address real-world challenges with AI expertise through accessible and affordable education.[3]
- UNC Charlotte has made significant contributions to AI research, including advancements in AI and mixed reality, natural language processing, computer vision, machine learning, and computer

[1] EAB. (2025, February). Market pulsecheck for a bachelor's-level artificial intelligence program. See Appendix A for the full study.

[2] Bureau of Labor Statistics, "Industry and Occupational Employment Projections Overview and Highlights, 2023–33," Monthly Labor Review, U.S. Department of Labor, 2024, https://www.bls.gov/opub/mlr/2024/article/industry-and-occupational-employment-projections-overview-and-highlights-2023-33.htm.

[3] UNC Charlotte, "About Us," UNC Charlotte, accessed February 28, 2025, https://www.charlotte.edu/landing/about-us

intelligence for predictive health and environmental risk analysis.[4]

Support for the UNC System's Mission:

- The program supports the UNC System's mission, emphasizing education, research, and public service for all North Carolinians.
- Labor market projections indicate a rise in AI-related job opportunities across North Carolina in industries such as healthcare, finance, cybersecurity, and transportation.
- UNC Charlotte will play a crucial role in the state's workforce development by offering this program.
- The program will create opportunities for collaboration with other UNC institutions, specifically the developing AI program at NC A&T University, fostering interdisciplinary research and shared resources in AI innovation. UNC Charlotte's MS in AI degree will also provide NC A&T University, B.S. in AI, graduates with graduate school opportunities.

Program's Necessity for the Institution:

- The College of Computing and Informatics at UNC Charlotte offers established programs in bioinformatics, data science, and cybersecurity—fields that are rapidly being transformed by AI applications necessitating a more focused and streamlined AI degree program.
    - UNC Charlotte is uniquely positioned to offer a distinct AI degree, building on its recognition as North Carolina's only UNC system institution currently offering a Graduate Certificate in Applied Artificial Intelligence.
    - UNC Charlotte is well-equipped to provide an MS in AI program focused on applied learning, real-world problem-solving, cross-disciplinary collaboration, and hands-on experiences.
    - UNC Charlotte offers affordable tuition for NC residents and an opportunity for flexibility, allowing students to select courses from various cutting-edge AI course clusters. Additionally, the program is supported by one of the largest computing colleges in the nation.

b. What are the key objectives of the program? What are the expected benefits for the student who graduates from the program? What are the expected public benefits (at the local, regional, state, or national level) of this program?

Key Objectives of the Program:

- Graduates will be able to assess the strengths, limitations, and impacts of AI models in real-world scenarios.
- Graduates will be able to apply machine learning models in order to extract meaning from data, identify patterns, and create predictions.
- Graduates will be able to design and implement AI-driven solutions using foundational algorithms, frameworks, and methodologies to solve real-world problems.

Expected Benefits for Graduates:

- Graduates, including those with a background in Computer Science who are already working in industry, will acquire competitive skills and job-ready expertise, allowing them to specialize in the rapidly growing field of Artificial Intelligence and ensuring they are well-prepared for roles in emerging industries.
- The program incorporates real-world case studies and explores AI-related ethical topics, providing a strong foundation of theoretical and analytical skills.
- Graduates, whether coming directly from their BS or transitioning from industry experience, will be well-positioned for careers in AI, data science, and machine learning across multiple sectors, including finance, consulting, technology, and energy.
- Located in the rapidly growing city of Charlotte, NC, the program will cultivate strong industry

[4] UNC Charlotte College of Computing and Informatics, "CCI Research Areas," UNC Charlotte, accessed February 28, 2025, https://cci.charlotte.edu/cci-research-areas/.

partnerships with leading employers—Lowe's, Bank of America, Ally, Duke Energy, and others—preparing graduates with the skills needed for real-world AI applications.

- A dedicated AI degree program at UNC Charlotte represents an important expansion of our offerings, equipping students—whether coming directly from their BS or transitioning from industry—with the specialized skills needed to meet evolving workforce demands and excel in the growing fields of AI, data science, and machine learning.

Expected Public Benefits:

Economic Impact and Community Engagement.

- The AI field is projected to contribute significantly to job creation and economic growth.
- Located in Charlotte, a major economic hub, the program will strengthen the local and state economy by producing AI professionals who meet workforce demands and support the region's growing industries.
- The program supports AI research, offering thesis options for students and enabling faculty and students to engage in discoveries that advance AI applications across various areas, including AI and mixed reality, natural language processing, computer vision, machine learning, cybersecurity, and computer intelligence for predictive health and environmental risk analysis.
- The program addresses North Carolina's need to drive progress by meeting the demand for AI jobs. Employment in occupations related to AI is projected to increase faster than average between 2025 and 2035.[5]

II. Program Planning and Unnecessary Duplication:

a. List all other public and private four-year institutions of higher education in North Carolina currently operating programs similar to the proposed new degree program, including their mode of delivery (use the 4-digit CIP as a guide). Show a four-year history of applications, acceptances, enrollments, and degrees awarded in similar programs offered at other UNC institutions (using the format below for each institution with a similar program). If data was not available, mark not available. Programs at UNC institutions may be found on the UNC System website.

There are no MS in Artificial Intelligence (CIP 11.0102) degree programs in the UNC System. Duke University, a private institution in North Carolina, does offer an MS in AI; however, in 2023, they graduated only 11 students—far too few to meet industry demand. As a private institution outside the Charlotte region with a high cost of attendance, Duke University serves a different demographic. In contrast, our affordable, public program will provide broader access to AI education and help fill the workforce gap. While not degree programs within the same CIP number, East Carolina University offers a Post Baccalaureate Certificate in "Intelligent Systems."[6] NC State offers online credentials through their AI Academy.[7] UNC at Chapel Hill conducts research through the AI Project. UNC Greensboro offers a graduate certificate in Generative AI for Business through their Bryan School of Business and Economics.[8] While interest in AI-related education and training is evident throughout the NC System, they do not fill the educational gap left by the absence of a dedicated MS degree program.

[5] EAB. (2025, February). Market pulsecheck for a bachelor's-level artificial intelligence program. See Request for Preliminary Authorization for the full study.

[6] ECU, "Graduate Certificates." *Department of Computer Science,* accessed February 28, 2025. https://cet.ecu.edu/csci/graduate-programs/graduate-programs/

[7] NC State University. "Join the Artificial Intelligence Academy." NC State Artificial Intelligence Academy. Accessed February 28, 2025. https://ai-academy.ncsu.edu/join-the-artificial-intelligence-academy/

[8] University of North Carolina at Greensboro. "Graduate Certificate in Generative AI for Business." *Bryan School of Business and Economics*, accessed February 28, 2025. https://bryan.uncg.edu/programs/certificates/graduate-certificate-in-generative-ai-for-business/.

b. Describe what was learned in consultation with other programs regarding their experience with student demand and job placement. Indicate how their experiences influenced your enrollment projections.

The program will also create new collaboration with other UNC institutions, fostering research and shared resources in AI innovation. UNC Charlotte's CCI Dean consulted Dr. Kaushik Roy, Department Chair of Computer Science at NC A&T University regarding their experience developing an undergraduate AI program, which at the time of this writing, has not been fully established yet. UNC Charlotte is also proposing a BS in AI program to be launched concurrently with the MS in AI. In addition to AI concentrations at other universities, these two fully-dedicated AI undergraduate programs—the only ones in the state—will serve as important pipelines for our MS program.

c. Identify opportunities for collaboration with institutions offering related degrees and discuss what steps have been or will be taken to actively pursue those opportunities where appropriate and advantageous.

Opportunities for collaboration between UNC Charlotte and NC A&T have been identified and discussed, primarily establishing a pipeline for those interested in pursuing graduate study. UNC Charlotte's MS degrees in Computer Science, IT, Cybersecurity, Data Science and Business Analytics, and its proposed MS in AI will provide NC A&T graduates opportunities to further their education.

d. Present documentation that the establishment of this program would not create unnecessary program duplication. In cases where other UNC institutions provided similar online, site-based distance education, or off-campus programs, directly address how the proposed program meets unmet need.

N/A. There are no similar MS programs in the UNC system.

e. Admission. List the following:
   i. Admissions requirements for proposed programs (indicate minimum requirements and general requirements).
   ii. Documents to be submitted for admission (listing)

Admission Requirements

In addition to the general requirements for admission to the Graduate School, students applying for this program are expected to have knowledge of computer programming, data structures, calculus, statistics and linear algebra. Students without undergraduate prerequisite courses in computer science and mathematics may be instructed to demonstrate prior knowledge, as determined by the Graduate Program Director.

A bachelor's degree in computer science would be beneficial. Individuals who have worked as professionals in the computer industry may be able to substitute work experience for some of the specific subject area admission requirements, subject to review by the Graduate Program Director.

Students must have an undergraduate grade point average of (or equivalent to) at least 3.0 (on a 4.0 point scale) and a Junior/Senior GPA of at least 3.0.

Student admission will be based on:

1. Prerequisites
    a. Math Requirements:
        i. Calculus
        ii. Linear Algebra and Statistics
    b. Computer Science Requirements (equivalent work experience in relevant field will be considered):
        i. Computer Programming
        ii. Data Structures
2. Undergraduate academic record
3. TOEFL, IELTS, and Duolingo (for international students)
4. GRE – Applicants who completed undergraduate degree outside of the United States may voluntarily submit GRE test scores and they will be reviewed as part of the holistic application consideration. Please note, the GRE requirement is optional.
5. Statement of purpose

f. Degree requirements. List the following:
    i. Total hours required. State requirements for Major, Minor, General Education, etc.
    ii. Other requirements (e.g., residence, comprehensive exams, thesis, dissertation, clinical or field experience, “second major,” etc.).

The proposed MS in Artificial Intelligence will require students to complete 30 credit hours of study.
Proposed Curriculum:

- Core Courses (foundational technical courses plus AI literacy and ethics) - 12cr
- Technical Courses (suggested clusters for specialization) - 9 cr
- Elective Courses (encouraged to explore courses outside AI, for interdisciplinary experience) - 6 cr
- Capstone (options include thesis and independent study in addition to project-based courses) - 3 cr

TOTAL DEGREE REQUIREMENTS: 30 credit hours

g. Enrollment. Estimate the total number of students that would be enrolled in the program during the first year of operation and in each delivery mode (campus, online, site, etc.)

	Campus	Online	Site	Full-Time	Part-Time
Year 1	28			18	10
Year 3	94			62	32

Year 5	200			130	70

h. For graduate programs only, please also answer the following:

Grades required	Core Courses must each be passed with A or B grades. A minimum overall 3.0 GPA is required.
Amount of transfer credit accepted	A maximum of 6 credit hours of graduate credit may be transferred from other graduate degree programs.
Language and/or research requirements	N/A
Any time limits for completion	All requirements for the master's degree must be completed within seven (7) calendar years, beginning with the student's first term in the program. The time limit cannot be paused, even if the student takes an approved leave of absence. No course older than seven years may be applied towards a master's degree (including transfer credit). Any course that exceeds this limit must be retaken. Failure to adhere to the time limit may result in the termination of a student's enrollment. The Graduate School may consider requests for a single extension of one (1) year in cases with rare, extenuating circumstances. In such cases, the student and graduate program must provide a signed timeline for program completion that does not exceed one year. Failure to adhere to the approved timeline for completion will result in automatic termination of the student's enrollment for a lack of satisfactory academic progress. Multiple extensions will not be approved.

i. For all programs, provide a degree plan showing the sequence of courses to be taken each year. List courses by title and number and indicate those that are required. Include an explanation of numbering system. Indicate new courses proposed. A possible format is offered below as an example. If your institution uses a different format that provides the required information, it may be submitted instead.

See **Appendix D** for a complete plan of study.

III. Faculty

a. (For undergraduate and master's programs) List the names, ranks and home department of faculty members who will be directly involved in the proposed program. The official roster forms approved by your accreditor may be submitted. For master's programs, state or attach the criteria that faculty must meet in order to be eligible to teach graduate level courses at your institution.

See **Appendix G** for faculty list.

b. (For doctoral programs) List the names, ranks, and home department of each faculty member who will be directly involved in the proposed program. The official roster forms approved by your accreditor may be submitted. Provide complete information on each faculty member's education, teaching and research experience, research funding, publications, and experience directing student research including the number of theses and dissertations directed.

N/A

c. Estimate the need for new faculty for the proposed program over the first four years. If the teaching responsibilities for the proposed program will be absorbed in part or in whole by the present faculty, explain how this will be done without weakening existing programs, and how the current teaching responsibilities of those faculty will be covered.

We have projected the need for two new tenure-track faculty positions at the inception of the program, with an additional two faculty members to be added in year three and another two in year five. The program will also receive support from existing faculty within the College of Computing and Informatics, which boasts a substantial team that has instructed many (18) of the courses included in the proposed program. The introduction of new faculty members will ensure our capacity to deliver both current and newly proposed courses needed for this program. In addition, we anticipate that students enrolled in existing programs (such as the MS in Computer Science and Information Technology) will also be able to participate in the new MS in Artificial Intelligence courses, thereby enriching the educational experience for a broader range of students within the College.

d. Explain how the program will affect faculty activity, including course load, public service activity, and scholarly research.

The establishment of the new Master of Science in Artificial Intelligence (AI) program will likely increase faculty activity across several areas. Course load will increase as the program grows, with additional courses and specialized content required to support the new curriculum. Over the past 5 years, the College of Computing and Informatics was able to hire 6 faculty members with the expertise in AI as part of the Engineering North Carolina Future investment. In the same period, overall enrollment in the College grew by more than 1,200 students. To manage this increased demand and ensure the quality of instruction, we have requested new faculty lines, specifically adjunct and tenure track faculty, and TA support to match the growing teaching responsibilities.

Public service activity will see a shift, as faculty will be more engaged in community outreach and industry partnerships related to AI. Given AI's impact on multiple sectors such as healthcare, business, and cybersecurity, faculty members may collaborate with local organizations and businesses to offer expertise through consulting, training programs, and public talks. We have already established close collaborations in AI and Data Science research and internships / co-ops with Lowe's and Honeywell, and we believe other partnerships will follow. Additionally, faculty could play an active role in shaping AI-related policies within the university and fostering awareness within the broader community.

In terms of scholarly research, the program will significantly enhance opportunities for faculty, especially newly appointed tenure track faculty hired to support this program. Many of our current faculty members are already engaged in AI research such as in **AI and mixed reality** in the Human Centered Computing (HCC) Lab and the Gaming and Mixed Reality Lab, **natural language processing, computer vision, and machine learning** in the

CharMLab, and in the Center for Computational Intelligence to Predict Health & Environmental Risks (CIPHER); the new program will provide a pipeline of students eager to participate in research projects. This collaboration between faculty and students will foster a dynamic research environment, leading to new projects, publications, and the possibility of interdisciplinary research with other institutions.

IV. Delivery Considerations. Provide assurances of the following (not to exceed 250 words per lettered item):

a. Access (online, site-based distance education, and off-campus programs). Students have access to academic support services comparable to services provided to on-campus students and appropriate to support the program, including admissions, financial aid, academic advising, delivery of course materials, and placement and counseling.

Since the majority of this program will be offered face-to-face on the main campus of UNC Charlotte, students will have access to resources available to all graduate students which includes an academic advisor to assist with degree plan guidance; monitoring of academic standing; career planning; consultation on institutional policies, procedures, and requirements. Students will have regular access to faculty for office hours and may access additional campus resources as needed. These resources offer a broad range of services that include, but are not limited to: Disability Services ensures access to academic programs and campus facilities by providing verification of medical documentation, academic accommodations, counseling, testing, note-taking, and scholarships. The Writing Resources Center, which encompasses the Graduate and Postdoctoral Writing Center, offers one-to-one writing instruction in writing across the disciplines from first-year to graduate, presentations, and workshops. Consultations, on-line services, and a library of writing-related instructional material are also available. The Graduate School's Thomas L. Reynolds Center for Graduate Life & Learning supports graduate students in a welcoming environment. Their professional development programming covers five key areas: ethics and scholarly inquiry, communication, leadership, cultural engagement, and teaching. Initiatives include workshops led by potential employers and other collaborators, peer mentoring, fellowships, competitions, experiential learning opportunities, and credit-bearing elective courses. The unit also supports well-being through community-building social events, affinity group meetings, and by advocating for Charlotte's graduate students.

b. Curriculum delivery (online and site-based distance education only). The distance education technology to be used is appropriate to the nature and objectives of the program. The content, methods and technology for each online course provide for adequate interaction between instructor and students and among students. What is the impact of online delivery on student access to the program, and what strategies are in place to support students who have internet limitations?

N/A- this is an on-campus program

c. Faculty development (online and site-based distance education only). Faculty engaged in program delivery receive training appropriate to the distance education technologies and techniques used.

N/A- this is an on-campus program

d. Security (online and site-based distance education only). The institution authenticates and verifies the identity of students and their work to assure academic honesty/integrity. The institution assures the security of personal/private information of students enrolled in online courses.

N/A- this is an on-campus program

V. Library

a. Provide a statement as to the adequacy of present library holdings for the proposed program to support the instructional and research needs of this program (this should be developed in consultation with the University Librarian).

Current library holdings are adequate to support student research for this program. Students have access to relevant databases, including *ACM Digital Library, IEEEXplore, ScienceDirect, Web of Science, Computer and Information Systems Abstracts, Synthesis Digital Library of Engineering and Computer Science,* and many others. The library owns hundreds of thousands of e-books from Springer, Wiley, Elsevier, Cambridge, and other publishers, mostly STEM subject matter, in addition to a growing print collection.The library has current online subscriptions to thousands of journal titles in this area.

b. If applicable, state how the library will be improved to meet new program requirements for the next four years. The explanation should discuss the need for books, periodicals, reference material, primary source material, etc. What additional library support must be added to areas supporting the proposed program?

The library offers responsive support to the research needs of the department. Faculty and graduate student researchers can contact the science librarian directly for one-time purchase materials that are needed, usually book titles or data sets. For ongoing subscriptions needed, the librarian will work with faculty in the department to prioritize and make requests of the library and university to support new research materials needed to propel the work forward.

c. Discuss the use of other institutional libraries (outside of your institution) in delivery of the program.

The library has a well-received Interlibrary Loan (ILL) department. It is the highest-rated service that the library offers. Faculty, students, and staff can make requests through an easy-to-use web interface, with the capability of auto-filling from any of our databases. Book chapters, conference proceedings, and journal articles are scanned and delivered electronically from other institutions as PDF files within 24-48 hours. Print books are mailed and delivered within 5 business days. Any materials that the library is unable to borrow from other libraries will be purchased if available for sale.

d. For doctoral programs, provide a systematic needs assessment of the current holdings to meet the needs of the program.

N/A

VI. Facilities and Equipment

a. Describe the effect of this new program on existing facilities and indicate whether they will be adequate, in year one, five, and ten of the program's operation.

Facilities are currently available for the AI program staff on the campus of UNC Charlotte in the Woodward building, Bioinformatics building, and will be available in the Burson building after the already-proposed, approved, and planned renovations/expansion. The Burson expansion will include staff offices for advising and program management in addition to numerous new faculty offices. All faculty have private offices, conference rooms, and workspaces through the College of Computing and Informatics. Depending on growth, additional faculty offices may be required.

i. Will any new square footage be required at any point in the first ten years of the program's operation? If so, please provide an overview of requirements, timeline, projected costs, and projected funding sources.

Space for new faculty and research labs is being accounted for in a current renovation and expansion of Burson building on UNC Charlotte campus and part of our expansion of the interdisciplinary collaboration between the School of Data Science, the College of Engineering, and the College of Computing. This expansion has two foci, one of which is the expansion of interdisciplinary research. The expansion portion of this plan will be focused on interdisciplinary research and will complete 10,800 net square feet of space with an additional 30,000 square feet of shell built for future expansion ($30M). The funding has already been allocated to UNC Charlotte for the Burson expansion through the North Carolina State Budgeting process. Tentative completion is expected in 2027, which aligns with the timeline of growth for this proposed program.

Renovations are planned for additional space in the Bioinformatics building to support CCI faculty and graduate students. Increased presence of CCI faculty and students in the Bioinformatics building will free up space in Woodward, providing additional capacity to support the AI program.

ii. Will any existing square footage require repair, renovation, or retrofit? If so, please provide an overview of requirements, timeline, projected costs, and projected funding sources.

Funding for the Burson refurbishment has already been allocated through the State budget ($25.9M) with refurbishment timing expected to be aligned with the expansion. Funding for Bioinformatics renovations are already allocated as well.

Depending on growth, further renovations may be warranted in year 4 to accommodate increased TA offices or to reconfigure current office floor plans for better space utilization.

b. Describe the effect of this new program on existing technology, information technology, and services and indicate whether they will be adequate, in year one, five, and ten of the program's operation.

Program faculty are closely affiliated with CCI-supported labs, equipment, and technology, all of which will play a crucial role in advancing the development of the AI programs. We anticipate that the expansion of AI research, fueled by the growth of our AI programs, will be further supported by grants, enabling the acquisition of additional state-of-the-art technology.

High Performance Computing:

UNC Charlotte and the High Performance Computer Science Lab (HPCS) have a wide arrangement of cutting-

edge high-performance computing equipment for students to leverage in their research. University Research Computing provides access to the Orion Cluster, an advanced computing cluster containing NVIDIA Ampere GPUs and a variety of other resources. Additionally, the HPCS lab has brand new Hopper GPUs and Grace-Hopper systems from NVIDIA.

Graphical Processing Units:

CCI is equipped with advanced computing resources, including powerful Graphics Processing Units (GPUs), which are essential for handling the intensive computational demands of AI research and applications. These GPUs enable us to efficiently process large datasets, train complex machine learning models, and support the cutting-edge technologies that will be central to the new AI program.

Servers:

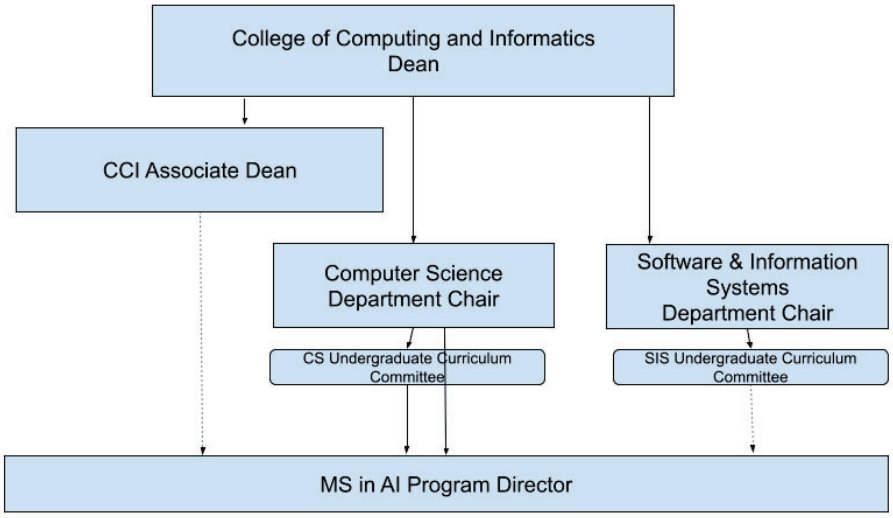
CCI manages a robust infrastructure with over 20 servers and continuously assesses the evolving needs of our researchers and academic programs to determine if additional resources are required to support growth and innovation.

VII. Administration

a. Describe how the proposed program will be administered, giving the responsibilities of each department, division, school, or college. Explain any inter-departmental or inter-unit administrative plans. Include an organizational chart showing the "location" of the proposed new program.

The MS in AI will be housed within the Computer Science Department under the College of Computing and Informatics (CCI) at UNC Charlotte. Faculty from both the Computer Science and Software and Information Systems Departments—both within CCI—will contribute to course instruction. These departments already collaborate effectively through the existing joint B.S. and B.A. in Computer Science programs.

While course topics may cross departments, the program will be administered by the Computer Science Department, overseeing curriculum, faculty assignments, and student support, while CCI will provide overall strategic direction and resource allocation. An organizational chart will illustrate the program's placement within CCI.



b. For joint programs only, include documentation that, at minimum, the fundamental elements of the following institutional processes have been agreed to by the partners:
   i. Admission process
   ii. Registration and enrollment process for students
   iii. Committee process for graduate students
   iv. Plan for charging and distributing tuition and fees
   v. Management of transcripts and permanent records
   vi. Participation in graduation
   vii. Design of diploma

N/A

VIII. Additional Program Support

a. Will additional administrative staff, new master's program graduate student assistantships, etc. be required that were not previously identified in the Request for Preliminary Authorization? If so, please describe each item, state the estimated new dollars required at steady state after four years, and state the source of the new funding and resources required.

N/A

IX. Accreditation and Licensure

a. Where appropriate, describe how all licensure or professional accreditation standards will be met, including required practica, internships, and supervised clinical experiences.

   N/A – This program does not lead to licensure and is not accredited by any professional organization beyond our institutional accreditation by SACSCOC.

b. Indicate the names of all accrediting agencies normally concerned with programs similar to the one proposed. Describe plans to request professional accreditation.
N/A

c. If the new degree program meets your accreditor's definition for a substantive change, what campus actions need to be completed by what date in order to ensure that the substantive change is reported to your accreditor on time?

As required by the Policy Statement on Substantive Change for Accredited Institutions of the Commission on Colleges, the University of North Carolina at Charlotte (UNC Charlotte) is required to submit a letter of notification for new degree programs prior to implementation. Notification of this new degree program will be provided to SACS after approval by the University of North Carolina Board of Governors and prior to implementation. The program will target submission completion by May 2025, allowing ample time for all necessary reviews, edits, and approvals.

d. If recipients of the proposed degree will require licensure to practice, explain how program curricula and title are aligned with requirements to "sit" for the licensure exam. List what state(s) the institution has determined the program meets professional licensure requirements for and how that information will be communicated to students and prospective students.

N/A

X. Evaluation Plans

a. What student learning outcomes will be met by the proposed program and how will student proficiency be measured? These items may be updated as necessary to meet student and program needs.

Graduates of the MS in AI at UNC Charlotte will meet the following student learning outcomes:

Program Student Learning Outcomes
MSAI1: Graduates will be able to assess the strengths, limitations, and impacts of AI models in real-world scenarios.
MSAI2: Graduates will be able to apply machine learning models in order to extract meaning from data, identify patterns, and create predictions.
MSAI3: Graduates will be able to design and implement AI-driven solutions using foundational algorithms, frameworks, and methodologies to solve real-world problems.

Appendix E describes how student proficiency will be measured, including:

1. Curriculum Map with essential skills and knowledge marked as introduced, practiced, and assessed across the program's courses.
2. Rubrics to evaluate the programmatic student learning outcomes.

b. The plan and schedule to evaluate the proposed new degree program prior to the completion of its fourth year of operation (to include types of measurement, frequency, and scope of program review).

Evaluation	2026-2027 (1st yr)	2027-2028	2028-2029	2029-2030	5-7 yrs post-establishment
Program Evaluation					
Annual Overview	X	X	X	X	
Program Review					X
SLO Assessment					
MSAI1 (AI LIteracy/Ethics)	Data Collection	Study Results	Improvement & Data Collection	Data Collection	
MSAI2 (Machine Learning)		Data Collection	Data Collection	Study Results	
MSAI3 (AI Project)		Data Collection	Study Results	Improvement & Data Collection	

Program Evaluations

a. Annual Overview. CCI examines academic programs every spring. In this meeting program directors, department chairs, assessment directors, associate deans, and the dean (when available) gather to discuss the following:
   i. Review of previous years goals.
      1. Review Key Performance Indicators (KPIs) indicating successes and struggles
      2. Written narrative of actions taken to support goals
   ii. Next year's goals
      1. Renew previous goals or change goals
      2. Establish new or reconfirm continued KPIs

b. Program Review. UNC System Policy 400.1, Policy on Academic Program Planning requires that all academic degree programs be reviewed at least once every seven years at the campus level starting from the date of the preceding review for existing programs or from the date of the implementation for new programs. CCI follows the requirements of the NC System and the procedures set forth by the university. The goal of this in-depth program review is to:
   i. recognize strengths and achievements;
   ii. identify areas in need of attention; and
   iii. promote goal setting and planning.

Student Learning Outcome (SLO) Assessments

The MS in Artificial Intelligence will run on a multi year improvement plan and SLO cycle of collection, study, and improvement.

a. Data Collection. This is a period of data collection. Once the program is established, a collection period

will typically follow an improvement year. This gives us an opportunity to see evidence of improvement. As we establish this new program, our first instances of data collection will include the introduction of SLOs and corresponding rubrics. Assessment data will be collected and reported on.

b. Study Results. Data collection is halted to reexamine the Student Learning Outcome, the assessment process, or educational experience. When available, two years worth of data will be analyzed and an improvement plan developed and implemented for the following year. In lieu of data collection, in-depth assessment meetings will take place and changes will be documented and approved by program leadership.
c. Improvement. Results of the study year are implemented–new assignments, new assessments, new processes, are rolled out. Bugs should be addressed this year so that the next year, the collection year, is an uninterrupted quiet collection year. Assessment data will be collected and reported on.

XI. Supporting Fields

a. Discuss the number and quality of lower-level and cognate programs in operation at the institution for supporting the proposed degree program.

The College of Computing and Informatics (CCI) offers an MS in Computer Science degree with a concentration in AI, Robotics, & Gaming (AIRG), which shares significant coursework with the proposed AI program. Depending on elective choices, a MS in AI student could share between 30% – 89% of their coursework with an MS in CS (AIRG) student, demonstrating strong academic alignment and resource efficiency. See **Appendix F** for curriculum crosswalk.

b. Are other subject-matter fields at the proposing institution necessary or valuable in support of the proposed program? Is there needed improvement or expansion of these fields? To what extent will such improvement or expansion be necessary for the proposed program?

The convergence between the proposed MS in AI and the existing MS in Computer Science already provides the necessary subject-matter fields to support the new program. At this time, there is no need for significant improvement or expansion of these fields, as the existing infrastructure sufficiently supports the AI program's requirements.

XII. Costs, Funding, and Budget

Adding a new degree program will cost the institution some amount of money and will potentially generate new revenues. Calculating the costs and identifying the funding sources associated with implementation of a new program requires several institutional offices (e.g., academic affairs, finance, institutional research, enrollment management) to collaborate to present an accurate estimate.

a. Complete and attach the *UNC System Academic Program Planning Financial Worksheet* showing all costs required and revenues generated for each of the first five years of the program. Provide a budget narrative for each year addressing the following:
    i. UNC Academic Program Costs
    Faculty costs include all faculty assigned to the proposed program, including faculty serving as program directors, coordinators, department chairs, etc., funded in the 101 instructional budget code. If an existing faculty member is reassigned to the program, the salary is reflected as a reallocated cost. New faculty salaries need to be competitive for the discipline, and figures should include all applicable fringe (e.g., retirement, medical).

If the proposed program will hire new faculty, it is a new cost.

Graduate Assistant costs are identified either as new or reallocated, as appropriate, and should include all stipends, tuition remission, and benefits, as applicable.

EHRA Non-Faculty positions include non-instructional academic support costs directly associated with running the program, including amounts associated with the Dean's office, research support, etc. This should include salaries and all applicable fringe.

SHRA Non-Faculty positions includes all positions specific costs associated with the new program. This includes the additional staff needed to organize applications, prepare for the proposed program, and for general administration of the proposed program. New staff or purchases of new equipment should be adequate to support the stated goals and enrollments for the proposed program. Other program costs identified in the proposal should be realistic.

The proposed MS in Artificial Intelligence program curriculum takes advantage of existing computer science courses and labs that are already offered as a part of our MS in Computer Science. Nine new courses will be developed as new and distinct from the MS in Computer Science with a concentration in Artificial Intelligence, Robotics, and Gaming. While students may pursue a source of study closer to the MS in Computer Science, they are able to pursue a plan of study that is up to 70% different from the MS in Computer Science. As a result, new faculty lines are requested primarily for new course development and increased student enrollment, but no new lab equipment, or new facilities are requested for the initial program offering.

The forecasted enrollment growth, assuming that most MS students take full-time workload (9 credit hours per semester), with 9 brand new courses in MS AI program, will increase faculty teaching load. To efficiently handle the increased load, 2 new tenure track faculty are requested every other year (Year 1, Year 3, Year 5), assuming that class sizes vary between 30 and 75. Typical teaching load for research-active faculty members in the College of Computing and Informatics is 3 course sections per year. These assumptions, depicted in the table below, bring the total request for new tenure track faculty to 6 by the end of Year 5. Outstanding sections will be taught by adjunct faculty. The increased enrollment will also necessitate additional Teaching Assistants (TAs), starting with 6 TAs (1 TA per course section) in Year 1 and growing to a total of 33 TAs by Year 5. 30 TAs are requested to be MS students and 3 would be PhD students. Most TAs for this program will be MS students, with PhD TAs assigned to assist with key courses with substantial needs to support AI projects. The projected number of TAs needed each year is outlined in the table below.

	Year 1	Year 2	Year 3	Year 4	Year 5
Student Enrollment	28	61	94	147	200
Tenure Track Faculty	2	2	4	4	6
Adjunct Faculty	2	2	2	2	2

MS TAs	5	10	15	23	30
PhD TAs	1	1	2	2	3

In addition to faculty and TAs, the program will require one dedicated Student Advisor and ½ FTE Student Services Specialist. Lastly, program administration will require a ½ FTE month stipend for the Program Director. Minor expenses related to supplies, materials, and student scholarships are included. Lastly, an overhead of 50% is budgeted to pay for Library services, Office of Assessment and Accreditation, Human Resources, Information Technology, utilities, facilities upkeep, classroom renovations, etc., all of which is detailed in the attached Academic Program Planning Financial Worksheet, Appendix A.

In summary, the total estimated new costs of the program are just under $7.7M over the initial five years, as detailed in the attached Academic Program Planning Financial Worksheet, Appendix A.

ii. UNC Academic Program Revenues

Funding sources may include enrollment growth formula funding, other state appropriation, regular tuition, tuition differential, general fees, special fees, reallocation of existing resources, federal funding, and other funding (such as awarded grants or gifts). The total projected revenue from the above categories should allow the proposed program to become self-sufficient within five years.

When estimating funding for new programs, institutions should take into account that students switching programs do not generate additional enrollment growth formula funds. For example, if a program projects enrollment of 20 students, by 12 of them switched into the program from an existing program at the institution, then only 8 of the students would generate additional formula funding.

Reallocation of Existing Resources includes the salary of faculty reassigned who may be partially or wholly reallocated to the new program. Explain how the current teaching obligations of those faculty are reallocated and include any faculty replacement costs as program costs in the budget. If substantial funds are reallocated, explain how existing undergraduate and graduate programs will be affected.

Federal Funding (In-hand only) refers to federal monies from grants or other sources currently in hand. Do not include federal funding sought but not secured. If anticipated federal funding is obtained, at that time it can be substituted for funds designated in other funding categories. Make note within the text of the proposal of any anticipated federal funding. Provide evidence of sustainability after federal funds have been exhausted.

Our analysis predicts a total enrollment of 200 students in Year 5, with less than 10 estimated students originating from our existing programs. Using current rates, the total revenue from tuition and fees over five years is computed as $19.8M, as detailed in the attached Academic Program Planning Financial Worksheet, Appendix A. As the program grows, major fees and tuition increments will be used to support teaching, student services, and recruiting and outreach efforts. The tuition and appropriation revenues are determined at an institutional level.

The numbers reflected may or may not reflect an actual change in the university budget.

b. Based on the institutions' estimate of available existing resources or expected non-state financial resources that will support the proposed program (e.g., federal support, private sources, tuition revenue, etc.), please describe the following:

i. How does the institution budget and allocate enrollment growth revenues? Is this program expected to generate new enrollment growth for the institution? If so, how will funds be allocated to the proposed program or be used to further other institutional priorities?

The proposed program is expected to generate new enrollment growth for UNC Charlotte. Increases in enrollment as well as Student Credit Hours (SCH) are reviewed by the Dean's office and examined within the context of the UNC System Office funding formula and University priorities when determining allocation of enrollment growth funds and general tuition and fees. Funds received at the department level will be used to support teaching, student services, and recruiting and outreach in proportion to the enrollment growth.

ii. Will the institution seek other additional state appropriations (both one-time and recurring) to implement and sustain the proposed program? If so, please elaborate.

No.

iii. Will the institution require differential tuition supplements or program-specific fees? If so, please elaborate.
1. State the amount of tuition differential or program-specific fees that will be requested.
2. Describe specifically how the campus will spend the revenues generated.
3. Describe the anticipated impact of the tuition differential or program-specific fee are expected to impact student access.

The major fee currently in place in the College of Computing and Informatics is $225 per year and the tuition increment is $4800 per year[9]. We will request equivalent fees and tuition increments for this new program. We will invest this generated revenue to support student success initiatives.

c. Provide a description of how the program can be implemented and sustained If enrollment increase funding, differential tuition, or other state appropriations noted in the budget templates are not forthcoming.

Program expansion would be slowed in the absence of enrollment growth funding to fully support the anticipated demand.

XIII. Additional Information. Include any additional information deemed pertinent to the review of this new degree program proposal.

[9] https://ninercentral.charlotte.edu/wp-content/uploads/sites/803/2024/07/Graduate_MainCampus_2425.pdf

XIV. Attachments. Attach *the UNC System Academic Program Planning Worksheet* as the first attachment following this document, the final approved Request for Preliminary Authorization as the second attachment, followed by any other relevant documents.

Appendix A: UNC System Academic Program Planning Financial Worksheet
Appendix B: Request for Preliminary Authorization
Appendix C: UNC Charlotte's existing AI-related programs and courses
Appendix D: Plan of Study MS in AI
Appendix E: MS-in-AI Student Learning Outcomes Assessment Plan
Appendix F: MS in AI Curriculum Crosswalk
Appendix G: Faculty List MS in AI

XV. Signatures. This proposal to establish a new program has been reviewed and approved by the appropriate campus committees and authorities and has my support.

Position Title	Signature	Date
Chancellor	DocuSigned by: Sharon Gaber 2FF1496738C7414...	04/17/2025 | 9:30 AM EDT
Provost	DocuSigned by: Jennifer Troyer CB79653C3A82433...	04/16/2025 | 5:43 PM EDT
Chief Financial Officer	DocuSigned by: Richard Amon 03B88EFF44BD4C5...	04/17/2025 | 8:14 AM EDT

(Only complete below for partner institution if this is a joint degree program proposal)

Position Title	Signature	Date
Chancellor		
Provost		
Chief Financial Officer		

	Current Program Sources (if applicable)	Rate	Year 0 (Start Up)	1st Year	2nd year	3rd Year	4th Year	5th Year	TOTALS
1	General Fund Appropriation								$ -
2	NC Promise Appropriation								$ -
3	*Resident Enrollment (FTE)*			5	5				
4	Regular Resident Tuition (Annual Rate)	$ 4,841	$ -	$ 24,205	$ 24,205	$ -	$ -	$ -	$ 48,410
5	*Nonresident Enrollment (FTE)*			3	3				
6	Regular Nonresident Tuition (Annual Rate)	$ 20,627	$ -	$ 61,881	$ 61,881	$ -	$ -	$ -	$ 123,762
7	Tuition Differential (Annual Rate)	$ 15,786	$ -	$ 126,288	$ 126,288	$ -	$ -	$ -	$ 252,576
8	Special Fees	$ 3,285	$ -	$ 26,280	$ 26,280	$ -	$ -	$ -	$ 52,560
9	External Funding (In-Hand Only)								$ -
10	Other Funding (Identify)								$ -
11	**Total Current Sources**		$ -	$ 238,654	$ 238,654	$ -	$ -	$ -	$ 477,308
	Proposed New Program Sources								
12	*Incremental Resident SCH*			234	630	1,116	1,728	2,340	6,048
13	Enrollment Funding Appropriation	$ 579	$ -	$ -	$ 67,743	$ 250,128	$ 505,467	$ 823,338	$ 1,646,676
14	*Resident Enrollment (FTE)*			13	35	62	96	130	$ 336
15	Regular Resident Tuition (Annual Rate)	$ 4,841	$ -	$ 62,933	$ 169,435	$ 300,142	$ 464,736	$ 629,330	$ 1,626,576
16	NC Promise Appropriation (Resident)		$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	*Nonresident Enrollment (FTE)*			7	18	32	51	70	$ 178
18	Regular Nonresident Tuition (Annual Rate)	$ 20,627	$ -	$ 144,389	$ 371,286	$ 660,064	$ 1,051,977	$ 1,443,890	$ 3,671,606
19	NC Promise Appropriation (Nonresident)		$ -	$ -	$ -	$ -	$ -	$ -	$ -
20	Tuition Differential (Annual Rate)	$ 15,786	$ -	$ 315,720	$ 836,658	$ 1,483,884	$ 2,320,542	$ 3,157,200	$ 8,114,004
21	Special Fees	$ 3,285	$ -	$ 65,700	$ 174,105	$ 308,790	$ 482,895	$ 657,000	$ 1,688,490
22	External Funding (In-Hand Only)								$ -
23	Other Funding (Identify)-SBTI + major fees	5025		100,500	266,325	472,350	738,675	1,005,000	2,582,850
24	**Total New Sources**		$ -	$ 689,242	$ 1,885,552	$ 3,475,358	$ 5,564,292	$ 7,715,758	$ 19,330,202
25	**Total Proposed Program Sources**		$ -	$ 927,896	$ 2,124,206	$ 3,475,358	$ 5,564,292	$ 7,715,758	$ 19,807,510

Comments

Chief Financial Officer

Name Richard Amon

Date 04/17/2025 | 8:14 AM EDT

Signature

X DocuSigned by: Richard Amon 03B88EFF44BD4C5...

		Year 0 (Start Up)	1st Year	2nd year	3rd Year	4th Year	5th Year	TOTALS
	Current Program Uses (if applicable)							
1	Tenure/Tenure-Track Faculty							$ -
2	Non Tenure-Track Faculty							$ -
3	Graduate Student Support							$ -
4	Non-Faculty Positions							$ -
5	Student Support (Scholarships)							$ -
6	Libraries							$ -
7	Supplies and Materials							$ -
8	Travel, Communications, and Fixed Charges							$ -
9	Equipment and Technology							$ -
10	Facility Repair and Renovation							$ -
11	Other (Identify)							$ -
12	**Total Current Uses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Proposed New Program Uses							
13	Tenure/Tenure-Track Faculty	-	332,376	332,376	664,752	664,752	997,128	$ **2,991,384**
14	Non Tenure-Track Faculty	-						$ -
15	Graduate Student Support	-	103,245	163,245	266,490	362,490	489,735	$ **1,385,205**
16	Non-Faculty Positions	-	114,764	114,764	114,764	114,764	114,764	$ **573,820**
17	Student Support (Scholarships)	-						$ -
18	Libraries	-						$ -
19	Supplies and Materials	-	2,000	2,000	2,000	2,000	2,000	$ **10,000**
20	Travel, Communications, and Fixed Charges	-						$ -
21	Equipment and Technology	-	5,000	5,000	5,000	5,000	5,000	$ **25,000**
22	Facility Repair and Renovation	-						$ -
23	Facility New Construction or Expansion	-						$ -
24	Other (Identify)- Stipend for adjunct & program direct	-	24,222	24,222	24,222	24,222	24,222	$ **121,111**
25	**Total New Uses**	$ -	$ **581,607**	$ **641,607**	$ **1,077,228**	$ **1,173,228**	$ **1,632,849**	$ **5,106,520**
	Overhead (HR, startup, IT, utilities, classroom renov/tech, etc)		$ 290,804	$ 320,804	$ 538,614	$ 586,614	$ 816,425	$ 2,553,260
26	**Total Proposed Program Uses**	$ -	$ **872,411**	$ **962,411**	$ **1,615,842**	$ **1,759,842**	$ **2,449,274**	$ **7,659,780**

Comments

Chief Financial Officer

Name Richard Amon

Date 04/17/2025 | 8:14 AM EDT

Signature

DocuSigned by:

X Richard Amon

03B88EFF44BD4C5...

THE UNIVERSITY OF NORTH CAROLINA SYSTEM

New Academic Degree Program Request for Preliminary Authorization

Institution University of North Carolina at Charlotte

Degree Program Title (e.g., M.A. in Biology) M.S. in Artificial Intelligence

Reviewed and Approved By (Provide Name and title only. No signature required in this section.)

Review	Name	Title
Chief Financial Officer	Richard Amon	Vice Chancellor for Business Affairs
Faculty Senate Chair (Or appropriate faculty body)	Xiaoxia Newton	Faculty Council President
Graduate Council (If applicable)	Concepcion Godev	Professor and Graduate Council Chair
Graduate/Undergraduate Dean (If applicable)	William Tolone	Dean of the Graduate School
Academic College/School Dean	Bojan Cukic	Dean College of Computing and Informatics
Department Head/Chair	Min Shin	Department Chair for Computer Science
Program Director/Coordinator	Harini Ramaprasad	CCI Associate Dean

New Academic Proposal Process

New academic programs are initiated and developed by faculty members. The Request for Preliminary Authorization must be reviewed and approved by the appropriate individuals listed above before submission to the UNC System Office for review.

Please provide a succinct, yet thorough response to each section. Obtain signatures from the Chancellor and Provost and submit the proposal via the PREP system to the UNC System Vice President for Academic Programs, Faculty, and Research, for review and approval by the UNC System Office. If the Request for Preliminary Authorization is approved, the institution may begin work on the formal Request to Establish a New Academic Degree Program.

NOTE: If an institution is requesting preliminary authorization for a degree program at a higher level than their current Carnegie Classification (e.g., a Master's institution proposing a doctoral degree), then a request for a mission review must first be submitted to the UNC Board of Governors Committee on Educational

Planning, Programs, and Policies, through the Senior Vice President for Academic Affairs. If approved by the Board, then the institution may proceed with the Request for Preliminary Authorization.

UNC Institution Name	University of North Carolina at Charlotte
Institutional Accreditor (e.g., SACSCOC)	SACSCOC
Joint Degree Program (Yes or No)? If so, list partner institution.	No
Degree Program Title (e.g., M.A. in Biology)	M.S. in Artificial Intelligence
CIP Code and CIP Title (May be found at National Center for Education Statistics)	11.0102 Artificial Intelligence
Require UNC Teacher Licensure Specialty Area Code (Yes or No). If yes, list suggested UNC Specialty Area Code(s).	No
Proposed Delivery Mode (campus, online, or site-based distance education). Add maximum % online, if applicable.	Campus
Will this program be offered by an outside provider such as an Online Program Manager (OPM) or Project Kitty Hawk (PKH)? If yes, list the provider.	No
Proposed Term to Enroll First Students (e.g., Fall 2023)	Fall 2026

I. Accreditor Liaison Statement: *(Provide a brief statement from the university accreditor liaison regarding whether the new program is or is not a substantive change.)*

The changes made have been evaluated and it is determined that they do constitute a substantive change.

II. Program Summary: (*Briefly describe the proposed program and summarize the overall rationale.*) Maximum of 1,000 words.

Include the following in your narrative:

a. How this program supports specific university and UNC System missions.
b. Collaborative opportunities with other UNC institutions as appropriate.
c. Ways in which the proposed program is distinct from others already offered in the UNC System. Information on other programs may be found on the UNC System website, and all similar

programs should be listed here (use the 4-digit CIP as a guide).

d. How does the program align with the UNC System and institutional strategic plan?

Supporting the Missions of UNC Charlotte and the UNC System

Establishing a Master of Science in Artificial Intelligence at UNC Charlotte aligns with the university's mission as a leading urban research institution with a substantial local-to-global impact. AI is a transformative force in multiple industries, and through accessible and affordable education, this program will prepare students to address real-world challenges with cutting-edge AI expertise.

The program supports the UNC System's mission, which emphasizes education, research, and public service for all North Carolinians. Labor market projections indicate a significant rise in AI-related job opportunities across North Carolina, particularly in industries such as healthcare, finance, and cybersecurity where AI is becoming an essential tool.

According to EAB, between February 2024 and January 2025, EAB identified **6,508 statewide AI-related job postings and 28,224 regional AI-related job postings**, demonstrating strong workforce demand. Notably, 33.68% of the statewide postings and 38.79% of the regional postings specifically seek candidates with a master's degree, highlighting the need for advanced AI education.[1]

By offering this program, UNC Charlotte will play a crucial role in the state's workforce development. Furthermore, the university has already made significant contributions to AI research, with advancements in AI and mixed reality in the **Human Centered Computing Lab**, and machine learning in the **CharMLab**, and in the **Center for Computational Intelligence to Predict Health & Environmental Risks (CIPHER)**. These research efforts position UNC Charlotte as a key player in AI innovation, with the opportunity for students to engage in research through the thesis option in the MS degree. UNC Charlotte's College of Computing and Informatics faculty boasts expertise in cutting-edge AI research, ensuring the graduate program is guided by leading scholars and practitioners in the field

Collaboration with Other NC Institutions

The program will also create new collaboration with other UNC institutions, fostering research and shared resources in AI innovation. UNC Charlotte's CCI Dean consulted Dr. Kaushik Roy, Department Chair of Computer Science at NC A&T University regarding their experience developing an undergraduate AI program, which at the time of this writing, has not been fully established yet. UNC Charlotte is also proposing a BS in AI program to be launched concurrently with the MS in AI. In addition to AI concentrations at other universities, these two fully-dedicated AI undergraduate programs—the only ones in the state—will serve as important pipelines for our MS program.

Distinction from Existing Programs in the UNC System

[1] EAB. (2025, February). Market pulsecheck for a bachelor's-level artificial intelligence program. See Appendix B for the full study.

- The proposed program will be the first and only Master's in AI in the UNC System.

Distinction from Existing Programs Across the Nation

According to iPeds Data Center (DOE)[2], 35 universities awarded an AI-specific master's degree (CIP code 11.0102) in 2023, highlighting strong market need, given the expected rapid growth for AI-related jobs. With less than 1,000 MS in AI degrees awarded in 2023, and all awarded outside of the UNC System[3], there is a clear market need, given the expected exponential growth for AI-related jobs. Compared to other MS in AI programs, UNC Charlotte offers affordable tuition for NC residents and an opportunity for students to select courses from a variety of cutting-edge AI course clusters, including, machine learning, robotics & decision-making, human-AI interactions, AI system design, and AI security. Additionally, we are supported by one of the largest computing colleges in the nation, giving us extensive experience in educating large numbers of students, as demonstrated by the large number of computing master's degrees awarded each year.[4]

Alignment with the UNC System's and UNC Charlotte's Strategic Plans

UNC System Strategic Plan Alignment Highlights

- **Student Success:** By incorporating real-world case studies, professionalism topics, and exploration of AI-related ethical topics into a program built on a foundation of strong theoretical and analytical skills, the program will ensure students graduate with competitive skills and job-ready expertise.
- **Affordability and Efficiency:** UNC Charlotte's already established commitment to affordability will extend to this program, ensuring cost-effective education while maintaining high-quality instruction.
- **Economic Impact and Community Engagement:** The Burtch Works' *2024 Data Science & AI Professionals Salary Report* found that "80% of all Data Science and AI professionals surveyed held an advanced degree. Education level has historically had a marked effect on salary," and "The proportion of AI professionals with a Master's and/or PhD as their highest degree earned is higher than Data Science professionals and is a statistically significant difference."[5] Offering an MS in AI will enhance the local economy by equipping professionals with advanced degrees, increasing their earning potential and meeting the growing demand for highly skilled AI talent in the workforce.

UNC Charlotte Strategic Plan Alignment Highlights

- **Transform Students' Lives Through Educational Opportunity and Excellence:** This program will provide students with cutting-edge AI knowledge gained through exploration of career-ready case studies and prioritizing practice with industry-used tools, preparing them for leadership roles in emerging industries.
- **Power the Future Through Inquiry, Research, and Creative Discovery:** The program will promote AI research, including a thesis option, that will support AI research, enabling faculty and students to engage

[2] IPEDS Data, https://nces.ed.gov/ipeds/use-the-data, Filter includes: US, Title IV, degree-granting institutions, CIP code 11.0102, year: 2023.

[3] Duke University was the only North Carolina university to award a total of 11 MS in AI degrees in 2023.

[4] MS degrees awarded in the past 5 years through the College of Computing and Informatics: 1,117 MS in CS, 222 MS in Cybersecurity, 341 MS in Information Technology, 86 MS in Bioinformatics, and 422 MS Data Science & Business Analytics

[5] Burtch Works. (2024). Data Science & AI Professionals Salary Report (p. 19). Retrieved from https://www.burtchworks.com/salary-2024.

in pioneering discoveries that advance AI applications in areas such as: AI and mixed reality, natural language processing, computer vision, cybersecurity, and computer intelligence for predictive health and environmental risk analysis.

- **Drive Progress for North Carolina and Beyond:** As with the NC System's Economic Impact and Community Engagement goals, the AI program will answer UNC Charlotte's call to drive progress in North Carolina and beyond. Lightcast's *The Speed of Skill Change* report found that, "Tech jobs have been notably disrupted by AI skills, including in data roles (like Data Scientists and Analytics Managers) and programming roles (like Software Developers)."[6] As AI rapidly reshapes the workforce, the demand for professionals to pursue advanced degrees in emerging fields like Artificial Intelligence has become more urgent than ever.

III. Student Demand*: (Provide evidence of student enrollment demand, including external estimates. Discuss the extent to which students will be drawn from a pool of students not previously served by the institution. Maximum length 1,000 words.)*

Current Program Interest

UNC Charlotte's **existing AI-related programs and courses** demonstrate strong and sustained student interest:

- **M. S. Computer Science with AI, Robotics, and Gaming Concentration:** CCI has over 600 students in the MS in CS program and around 100 students enrolled in the "AI, Robotics, and Gaming" concentration. This reflects significant demand for AI-related studies within the Computer Science major.
- **AI-Related Courses:**
    - Seven AI-focused courses recently offered: *Natural Language Processing (Fall)*, *Introduction to Artificial Intelligence (Fall & Spring)*, *Introduction to Machine Learning (Fall & Spring)*, and *Computer Vision (Spring), Intelligent Robotics (Spring), Mobile Robotics (Fall), and Special Topics: AI Literacy (Intermittently)*.
    - **Fall Enrollment:** 323 students across three of the four fall courses.
    - **Spring Enrollment:** 333 students currently enrolled in three of the four spring courses, demonstrating continued demand.

This consistent enrollment across multiple semesters highlights a **clear and growing interest in AI topics**. The sustained demand supports the **viability of a dedicated MS in AI program**, allowing students to develop deeper expertise beyond an AI concentration.

Future Program Interest

AI's growing relevance across industries makes it an attractive field for students who may not have previously considered a technical degree, broadening the institution's reach. Unlike traditional computing programs, a MS in AI has the potential to attract working adults with undergraduate degrees, or relevant work experience,

[6] Lightcast. (2024). *The Speed of Skill Change*. Retrieved February 2025, from https://lightcast.io/resources/research/speed-of-skill-change.

looking to **upskill** in AI applications relevant to their careers. Our research indicates that UNC Charlotte's AI programs are already drawing **older students**, particularly in the **31-35 age bracket**, as seen in the rapid growth of our AI-focused graduate certificate (see chart in section V, *Societal and Labor Market Demand*).

Burtch Works' 2024 *Data Science & AI Professionals Salary Report* found that "mid-career individuals from industry are going back and getting higher education degrees to further differentiate their skill set in a competitive market."[7] Similarly, EAB's research found that no statewide institutions and only one regional institution have awarded an undergraduate AI degree, leaving many with undergraduate degrees, even in computer science, without foundational AI education—making a graduate AI degree essential for catching up to market demands.[8] The lack of educational opportunities in AI specifically has caused many individuals to turn to private learning and self-directed courses[9] to fill this gap. As mentioned above, Lightcast's The Speed of Skill Change report found that, "Tech jobs have been notably disrupted by AI skills, including in data roles (like Data Scientists, Analytics Managers, and Data Engineers) and programming roles (like Computer Scientists and Software Developers)."[10] UNC Charlotte, through CCI, intends to fill that undergraduate gap and complete the educational lifecycle by establishing this MS degree.

With increasing market demand for AI expertise, a largely untapped student population seeking career advancement, and limited degree offerings in North Carolina, UNC Charlotte is well-positioned to take the lead in AI education and workforce development.

IV. Access, Affordability, and Student Success: (*Provide an analysis of the impact of the program on student access and affordability. Maximum length 1,200 words. Include information from College Scorecard. May also include census postsecondary outcomes data, etc.)*

a. Analysis of the impact of the proposed program on student access, including key metrics identified in the UNC System Strategic Plan and statewide initiatives (such as myFutureNC).
b. Analysis of student debt levels for similar programs and programs at the same academic level at the institution.
c. Provide an analysis of indebtedness, repayment, and relationship to potential earnings.

We expect that the graduates of the proposed program will also benefit from a favorable debt-to-earning ratio and will quickly benefit financially from their participation in the program. The U.S. Department of Education College Scorecard[11] provides data for institutions that are comparable to UNC Charlotte. Of our established 12 peer institutions, only two awarded Master's degrees in CIP 11.0102 during the most recent reporting year: San

[7] Burtch Works. (2024). Data Science & AI Professionals Salary Report (p. 19). Retrieved from https://www.burtchworks.com/salary-2024.

[8] EAB. (2025, February). Market pulsecheck for a bachelor's-level artificial intelligence program. See Appendix B for the full study.

[9] Burtch Works. (2024). Data Science & AI Professionals Salary Report (p. 19). Retrieved from https://www.burtchworks.com/salary-2024.

[10] Lightcast. (2024). *The Speed of Skill Change*. Retrieved February 2025, from https://lightcast.io/resources/research/speed-of-skill-change.

[11] https://collegescorecard.ed.gov/

Diego State University and Florida Atlantic University. The remaining CIP 11.0102 MS-awarding institutions in the following tables were selected based on comparable enrollment.

Institution Comparison Selection

Institution	Offers MS in CIP 11.0102, awarded in 2023	Tuition + fees In-state, graduate	Tuition + fees Out-of-state, graduate	Total undergraduate enrollment	Total graduate enrollment
University of San Diego	Yes	$29,328	$29,328	5,726	3,384
University of Pittsburgh-Pittsburgh Campus	Yes	$27,064	$45,034	25,171	9,354
Kent State University at Kent	Yes	$12,483	$23,352	20,485	5,621
University of North Carolina at Charlotte	Proposed	$7,869	$22,438	23,981	6,317
Florida Atlantic University	Yes	$6,693	$18,482	24,614	6,176

Program awards, tuition, and enrollment all based on the National Center for Education Statistics iPeds **AY 2023** data[12]

Indebtedness, repayment, and relationship to potential earnings[13]

Institution	Average Annual Cost	Median Total Debt After Graduation	Typical Monthly Loan Payment	Median Earnings	Median Program Earnings
University of San Diego	$29,725	$22,940	$243	$86,522	
University of Pittsburgh-Pittsburgh Campus	$29,187	$24,250	$257	$66,125	
Kent State University at Kent	$18,340	$24,500	$260	$45,388	
University of North Carolina at Charlotte	$15,018	$21,500	$228	$57,289	
MS in Comp Sci*		$2k - $25k**			$111k***
MS in Cybersecurity*		$6k - $24k**			$90k***
MS in IT*		$4k - $28k**			$112k***
Florida Atlantic University	$8,636	$17,236	$183	$56,746	

All earning and debt information from U.S. Department of Education's College Scorecard, unless otherwise indicated

* Information on specific program-based student debt provided by UNC Charlotte's Institutional Research

** Avg debt of all students in program vs avg debt of graduates with debt

*** Data from Lightcast alumni report. Note: MSCyber only has 5-yr earnings data, all others have 10-yr earnings

[12] https://nces.ed.gov/ipeds/use-the-data

[13] Average Annual Cost- The average annual net price that a student who receives federal financial aid pays to cover expenses (e.g., tuition, living expenses) to attend a school. Median Total Debt After Graduation- The median cumulative federal debt of undergraduate borrowers who graduated. Monthly Student Loan Payment - The median monthly loan payment for student borrowers who completed, based only on federal loan debt originated at the school awarding the credential, if it were repaid over 10 years at a 4.99% interest rate. Median Earnings - The median annual earnings of individuals that received federal student aid and began college at this institution 10 years ago, regardless of their completion status. Median Program Earnings - The average of the estimated wage, 10 years post graduation (MSCyber is newer with only 5 yrs), for each of our selected alumni, based on the median wage for their occupation in their county, adjusted for age and degree level.

Expected Earnings: According to the *Burtch Works 2024 Data Science & AI Professionals Salary Report*[14], the average entry-level AI professional (non-manager) earned $117K in 2024, up from $110K in 2023. While the Bureau of Labor Statistics does not yet track AI-specific salaries, Burtch Works's data aligns with BLS figures for Computing Professional - Database Administrators and Architects and is slightly lower than the $145K median salary for MS-level professionals in Computer and Information Research Science (2023 National Employment Matrix code: 15-1221), an AI-related occupation with an extremely high 26% projected 10-year growth rate.

Cost: Educational expense compared to earnings across all programs is favorable at UNC Charlotte compared to our peer institutions. Compared to our most expensive peer institution, University of San Diego, our in-state tuition is 75% less expensive, and 25% less expensive for out-of-state students with a corresponding 33% reduction in median earnings. Compared to Kent State University at Kent, our in-state tuition is 17% cheaper and our out-of-state tuition is 13% cheaper, while delivering 26% higher median earnings.

Ability to Repay: According to the DOE's College Scorecard, the typical yearly loan payment for a UNC Charlotte graduate is $2,736. With an estimated annual salary of $117k in AI professions, this corresponds to an average debt-to-earning ratio of 2.3%. While our current MS in Information Technology degree students can incur debt up to $7k higher than the UNC Charlotte average, the earning power of the degree is nearly $55k more than the UNC Charlotte average salary. Given the similar, or higher, earning power of an AI MS degree compared to our MS in Information Technology graduates and an assumed similar debt burden, we expect a comparable debt-to-earnings ratio.

Student Success: Our UNC Charlotte College of Computing and Informatics students graduate and graduate on time. Among our 2022 cohorts, two-year completion rates were 92.6% for MS in Computer Science, 96.2% for MS in Cybersecurity, and 90.9% for MS in Information Technology. These high completion rates demonstrate that our computing-related programs provide real value for students who invest their time and money. Our success in guiding students to completion makes us a reliable choice to launch a high-quality MS in Artificial Intelligence.

The MS in Artificial Intelligence degree program will offer a strong return on investment (ROI) as graduates in tech fields—particularly emerging technologies—experience significant financial benefits. According to the report, *Measuring the ROI of Degrees in the UNC System:*[15] UNC system graduates, on average, break even on their educational investments in less than 10 years (p. 8). Notably, computing degrees rank among the top 30% of high-ROI earning graduate programs of study, further reinforcing the strong financial benefits of an advanced degree in Artificial Intelligence.

With strong job growth in AI-related fields and proven economic benefits for UNC system graduates, the MS in Artificial Intelligence will provide students with a high-value, future-proof education that enhances economic mobility and financial stability.

[14] Burtch Works. (2024). Data Science & AI Professionals Salary Report (p. 19). Retrieved from https://www.burtchworks.com/salary-2024.

[15] Burning Glass Institute. *Measuring the ROI of Degrees in the UNC System*. Accessed February 28, 2025. https://www.burningglassinstitute.org/research/measuring-the-roi-of-degrees-in-the-unc-system.

V. Societal and Labor Market Demand: *(Provide evidence of societal demand and employability of graduates from each of the following source types. Must include external estimates. Maximum length 1,000 words)*

a. Labor market information (projections, job posting analyses, and wages)
   i. Specific to North Carolina (such as ncworks.gov, nctower.com, or outside vendors such as Burning Glass).
   ii. Available from national occupational and industry projections (such as the U.S. Bureau of Labor Statistics).

b. Projections from professional associations or industry reports (including analysis

c. Other (alumni surveys, insights from existing programs, etc.)

North Carolina Job Prospects

A search for Artificial Intelligence-related job postings on NCWorks.gov[16] reveals a high demand for AI professionals both statewide and in the Charlotte region.

- **Statewide**: Over **2,600 AI-related job listings** across various industries.
- **Charlotte**: More than **1,000 job openings**, demonstrating a **strong local demand**.
- **Top Employers in Charlotte**:
  - **Deloitte** – 142 listings
  - **Innova Solutions** – 23 listings
  - **Accenture** – 22 listings
  - **Truist Bank** – 22 listings
  - **Westinghouse Electric Company, LLC** – 22 listings

These numbers underscore the growing need for AI talent in our region, making a MS in Artificial Intelligence a strategic addition to our university's offerings. Graduates from this program will be well-positioned for careers in AI, data science, and machine learning across multiple sectors, including finance, consulting, technology, and energy.

Industry Growth, National

The AI job market is expanding rapidly, reinforcing the need for dedicated AI education:

- **Lightcast (2024):** "Generative AI job postings have increased **15,625%** from 2021 to 2024," signaling an unprecedented rise in AI-driven roles.
- **U.S. Bureau of Labor Statistics (November 2024):**
  - **Software development** demand is rising due to AI integration.
  - **Data scientists and machine learning engineers** are becoming critical as AI adoption grows.

[16] NCWorks.gov. (2025, February 24). *Job search results for "Artificial Intelligence".* Retrieved from https://www.ncworks.gov

- **AI skills** are now essential in cybersecurity**, IT infrastructure, and digital transformation**.
- **Healthcare and finance** are experiencing a surge in AI-driven automation and innovation.

With AI reshaping industries and driving job market growth, **a dedicated MS in AI program** at UNC Charlotte will equip students with the specialized skills needed to meet evolving workforce demands.

Existing Program Insights

Recent enrollment data from UNC Charlotte's AI-related programs indicate a rising demand for AI and machine learning topics, reflecting growing student interest in this field. Since its introduction in 2021, enrollment in the graduate certificate in Applied Artificial Intelligence has increased over six-fold, with the largest growth among students aged 31-35 and exclusively domestic students.

Existing Student Interest

Enrollments	Fall 2020	Fall 2021	Fall 2022	Fall 2023	Fall 2024	Growth %
Applied Artificial Intelligence, Graduate Certificate *Representing subject interest from domestic, working adult students*	NA	3	9	16	20	567%
BS in Computer Science, AI, Robotics, & Gaming concentration *Pipeline possibility*	268	260	263	286	340	27%
MS in Computer Science, AI, Robotics, & Gaming concentration *Existing student interest in similar program*	79	93	71	72	96	22%

Lightcast's report, *The Speed of Skill Change*, notes that "tech jobs have been notably disrupted by AI skills, including in data roles (like Data Scientists, Analytics Managers, and Data Engineers) [and] programming roles (like Computer Scientists and Software Developers)."[17] This disruption signals that a concentration within a Data Science or Computer Science graduate degree is no longer sufficient; instead, a fully established degree pathway is required to meet evolving market needs.

This sustained enrollment growth highlights a clear and increasing demand for AI education. Establishing a dedicated MS in AI will provide students with a structured pathway to develop expertise in this critical field, ensuring UNC Charlotte continues to meet the evolving educational needs of its students.

VI. Costs, Funding, and Budget (*Maximum length 1,200 words)*

Adding a new degree program will cost the institution some amount of money and will potentially generate new revenues. Calculating the costs and identifying the funding sources associated with

[17] Lightcast. (2024). *The Speed of Skill Change*. Retrieved February 2025, from https://lightcast.io/resources/research/speed-of-skill-change.

implementation of a new program requires several institutional offices (e.g., academic affairs, finance, institutional research, enrollment management) to collaborate to present an accurate estimate.

a. Complete and attach the *UNC System Academic Program Planning Financial Worksheet* showing all costs required and revenues generated for each of the first five years of the program. Provide a budget narrative for each year addressing the following:
    i. UNC Academic Program Costs
    Faculty costs include all faculty assigned to the proposed program, including faculty serving as program directors, coordinators, department chairs, etc. funded in the 101 instructional budget code. If an existing faculty member is reassigned to the program, the salary is reflected as a reallocated cost. New faculty salaries need to be competitive for the discipline, and figures should include all applicable fringe (e.g., retirement, medical). If the proposed program will hire new faculty, it is a new cost.

    Graduate Assistant costs are identified either as new or reallocated, as appropriate, and should include all stipends, tuition remission, and benefits, as applicable.

    EHRA Non-Faculty positions include non-instructional academic support costs directly associated with running the program, including amounts associated with the Dean's office, research support, etc. This should include salaries and all applicable fringe.
    SHRA Non-Faculty positions includes all positions specific costs associated with the new program. This includes the additional staff needed to organize applications, prepare for the proposed program, and for general administration of the proposed program. New staff or purchases of new equipment should be adequate to support the stated goals and enrollments for the proposed program. Other program costs identified in the proposal should be realistic.

The proposed MS in Artificial Intelligence program curriculum takes advantage of existing computer science courses and labs that are already offered as a part of our MS in Computer Science. Nine new courses will be developed as new and distinct from the MS in Computer Science with a concentration in Artificial Intelligence, Robotics, and Gaming. While students may pursue a source of study closer to the MS in Computer Science, they are able to pursue a plan of study that is up to 70% different from the MS in Computer Science. As a result, new faculty lines are requested primarily for new course development and increased student enrollment, but no new lab equipment, or new facilities are requested for the initial program offering.

The forecasted enrollment growth, assuming that most MS students take full-time workload (9 credit hours per semester), with 9 brand new courses in MS AI program, will increase faculty teaching load. To efficiently handle the increased load, 2 new tenure track faculty are requested every other year (Year 1, Year 3, Year 5), assuming that class sizes vary between 30 and 75. Typical teaching load for research-active faculty members in the College of Computing and Informatics is 3 course sections per year. These assumptions, depicted in the table below, bring the total request for new tenure track faculty to 6 by the end of Year 5. Outstanding sections will be taught by adjunct faculty. The increased enrollment will also necessitate additional Teaching Assistants (TAs), starting with

6 TAs (1 TA per course section) in Year 1 and growing to a total of 33 TAs by Year 5. 30 TAs are requested to be MS students and 3 would be PhD students. Most TAs for this program will be MS students, with PhD TAs assigned to assist with key courses with substantial needs to support AI projects. The projected number of TAs needed each year is outlined in the table below.

	Year 1	Year 2	Year 3	Year 4	Year 5
Student Enrollment	28	61	94	147	200
Tenure Track Faculty	2	2	4	4	6
Adjunct Faculty	2	2	2	2	2
MS TAs	5	10	15	23	30
PhD TAs	1	1	2	2	3

In addition to faculty and TAs, the program will require one dedicated Student Advisor and ½ FTE Student Services Specialist. Lastly, program administration will require a ½ FTE month stipend for the Program Director. Minor expenses related to supplies, materials, and student scholarships are included. Lastly, an overhead of 50% is budgeted to pay for Library services, Office of Assessment and Accreditation, Human Resources, Information Technology, utilities, facilities upkeep, classroom renovations, etc., all of which is detailed in the attached Academic Program Planning Financial Worksheet, Appendix A.

In summary, the total estimated new costs of the program are just under $7.7M over the initial five years, as detailed in the attached Academic Program Planning Financial Worksheet, Appendix A.

ii. UNC Academic Program Revenues

Funding sources may include enrollment growth formula funding, other state appropriation, regular tuition, tuition differential, general fees, special fees, reallocation of existing resources, federal funding, and other funding (such as awarded grants or gifts). The total projected revenue from the above categories should allow the proposed program to become self-sufficient within five years.

When estimating funding for new programs, institutions should take into account that students switching programs do not generate additional enrollment growth formula funds. For example, if a program projects enrollment of 20 students, but 12 of them switched into the program from an existing program at the institution, then only 8 of the students would generate additional formula funding.

Reallocation of Existing Resources includes the salary of faculty reassigned who may be partially or wholly reallocated to the new program. Explain how the current teaching

obligations of those faculty are reallocated and include any faculty replacement costs as program costs in the budget. If substantial funds are reallocated, explain how existing undergraduate and graduate programs will be affected.

Federal Funding (In-hand only) refers to federal monies from grants or other sources currently in hand. Do not include federal funding sought but not secured. If anticipated federal funding is obtained, at that time it can be substituted for funds designated in other funding categories. Make note within the text of the proposal of any anticipated federal funding. Provide evidence of sustainability after federal funds have been exhausted.

Our analysis predicts a total enrollment of 200 students in Year 5, with less than 10 estimated students originating from our existing programs. Using current rates, the total revenue from tuition and fees over five years is computed as $19.8M, as detailed in the attached Academic Program Planning Financial Worksheet, Appendix A. As the program grows, major fees and tuition increments will be used to support teaching, student services, and recruiting and outreach efforts. The tuition and appropriation revenues are determined at an institutional level. The numbers reflected may or may not reflect an actual change in the university budget.

b. Based on the institution's estimate of available existing resources or expected non-state financial resources that will support the proposed program (e.g., federal support, private sources, tuition revenue, etc.), please describe the following:

i. How does the institution budget and allocate enrollment growth revenues? Is this program expected to generate new enrollment growth for the institution? If so, how will funds be allocated to the proposed program or be used to further other institutional priorities?

The proposed program is expected to generate new enrollment growth for UNC Charlotte. Increases in enrollment as well as Student Credit Hours (SCH) are reviewed by the Dean's office and examined within the context of the UNC System Office funding formula and University priorities when determining allocation of enrollment growth funds and general tuition and fees. Funds received at the department level will be used to support teaching, student services, and recruiting and outreach in proportion to the enrollment growth.

ii. Will the institution seek other additional state appropriations (both one-time and recurring) to implement and sustain the proposed program? If so, please elaborate.

No.

iii. Will the institution require differential tuition supplements or program-specific fees? If so, please elaborate.

1. State the amount of tuition differential or program-specific fees that will be requested.
2. Describe specifically how the campus will spend the revenues generated.
3. Describe the anticipated impact of the tuition differential or program-specific fee are expected to impact student access.

The major fee currently in place in the College of Computing and Informatics is $225 per year and the tuition increment is $4800 per year[18]. We will request equivalent fees and tuition increments for this new program. We will invest this generated revenue to support student success initiatives.

c. Provide a description of how the program can be implemented and sustained If enrollment increase funding, differential tuition, or other state appropriations noted in the budget templates are not forthcoming.

Program expansion would be slowed in the absence of enrollment growth funding to fully support the anticipated demand.

d. If this is an online program offered in partnership with an OPM, describe the nature of the relationship, length of contract, funding model (e.g., revenue share, fee for service), and plans for sustainability beyond the initial contract period.

N/A

VII. For Research Doctoral Programs Only:

Describe the following (maximum length 1,000 words):

a. The research and scholarly infrastructure in place (including faculty) to support the proposed program.
b. Any aspects of financing the proposed new program not included in the above section.
c. State the number, amount, and source of proposed graduate student stipends and related tuition benefits that will be required to initiate the program.

N/A

VIII. For Professional Practice Doctoral Programs Only:

Describe the following (maximum length 1,000 words):

a. Discussion of external requirements, including professional licensure or accreditation requirements related to the proposed program. If the program is designed or will be marketed to lead to professional licensure, which state(s) has the institution determined the program meets professional licensure requirements for?
b. The academic and professional infrastructure in place (including faculty) to support the proposed program.
c. Any aspects of financing the proposed new program not included in the above section.
d. State the number and source of required clinical/practical placements, if applicable. Determine whether it is the students' or the institution's responsibility to secure clinical/practical placements and discuss how that expectation will be communicated to students and prospective students.

[18] https://ninercentral.charlotte.edu/wp-content/uploads/sites/803/2024/07/Graduate_MainCampus_2425.pdf

Describe how the institution will ensure that proposed clinical/practical sites are appropriate.

N/A

Appendices:

A: UNC System Academic Program Planning Financial Worksheet

B: EAB Market Insights Report

IX. Contact: (List the names, titles, e-mail addresses and telephone numbers of the person(s) responsible for planning the proposed program.)

Position Title	Name	E-mail Address	Telephone
Dean, College of Computing and Informatics	Bojan Cukic	bcukic@charlotte.edu	704-687-8422
Chair, Department of Computer Science	Min Shin	mcshin@charlotte.edu	704-687-8578
Associate Dean for Undergraduate Programs and Student Success, College of Computing and Informatics	Harini Ramaprasad	hramapra@charlotte.edu	704-687-1737
Director of Assessment, Planning, and Accreditation	Colleen Karnas-Haines	ckarnash@charlotte.edu	704-687-8370

Signatures. This Request for Preliminary Authorization has been reviewed and approved by the appropriate institutional committees and authorities and has my support.

Position Title	Signature	Date
Chancellor	DocuSigned by: Sharon Gaber 2FF1496738C7414...	04/16/2025 | 10:07 AM EDT
Provost	DocuSigned by: Jennifer Troyer CB79653C3A82433...	04/15/2025 | 11:11 AM EDT

(Only complete below for partner institution if this is a joint degree program proposal)

Position Title	Signature	Date
Chancellor		
Provost		

	Current Program Sources (if applicable)	Rate	Year 0 (Start Up)	1st Year	2nd year	3rd Year	4th Year	5th Year	TOTALS
1	General Fund Appropriation								$ -
2	NC Promise Appropriation								$ -
3	*Resident Enrollment (FTE)*			5	5				
4	Regular Resident Tuition (Annual Rate)	$ 4,841	$ -	$ 24,205	$ 24,205	$ -	$ -	$ -	$ 48,410
5	*Nonresident Enrollment (FTE)*			3	3				
6	Regular Nonresident Tuition (Annual Rate)	$ 20,627	$ -	$ 61,881	$ 61,881	$ -	$ -	$ -	$ 123,762
7	Tuition Differential (Annual Rate)	$ 15,786	$ -	$ 126,288	$ 126,288	$ -	$ -	$ -	$ 252,576
8	Special Fees	$ 3,285	$ -	$ 26,280	$ 26,280	$ -	$ -	$ -	$ 52,560
9	External Funding (In-Hand Only)								$ -
10	Other Funding (Identify)								$ -
11	**Total Current Sources**		$ -	$ 238,654	$ 238,654	$ -	$ -	$ -	$ 477,308
	Proposed New Program Sources								
12	*Incremental Resident SCH*			234	630	1,116	1,728	2,340	6,048
13	Enrollment Funding Appropriation	$ 579	$ -	$ -	$ 67,743	$ 250,128	$ 505,467	$ 823,338	$ 1,646,676
14	*Resident Enrollment (FTE)*			13	35	62	96	130	$ 336
15	Regular Resident Tuition (Annual Rate)	$ 4,841	$ -	$ 62,933	$ 169,435	$ 300,142	$ 464,736	$ 629,330	$ 1,626,576
16	NC Promise Appropriation (Resident)		$ -	$ -	$ -	$ -	$ -	$ -	$ -
17	*Nonresident Enrollment (FTE)*			7	18	32	51	70	$ 178
18	Regular Nonresident Tuition (Annual Rate)	$ 20,627	$ -	$ 144,389	$ 371,286	$ 660,064	$ 1,051,977	$ 1,443,890	$ 3,671,606
19	NC Promise Appropriation (Nonresident)		$ -	$ -	$ -	$ -	$ -	$ -	$ -
20	Tuition Differential (Annual Rate)	$ 15,786	$ -	$ 315,720	$ 836,658	$ 1,483,884	$ 2,320,542	$ 3,157,200	$ 8,114,004
21	Special Fees	$ 3,285	$ -	$ 65,700	$ 174,105	$ 308,790	$ 482,895	$ 657,000	$ 1,688,490
22	External Funding (In-Hand Only)								$ -
23	Other Funding (Identify)-SBTI + major fees	5025		100,500	266,325	472,350	738,675	1,005,000	2,582,850
24	**Total New Sources**		$ -	$ 689,242	$ 1,885,552	$ 3,475,358	$ 5,564,292	$ 7,715,758	$ 19,330,202
25	**Total Proposed Program Sources**		$ -	$ 927,896	$ 2,124,206	$ 3,475,358	$ 5,564,292	$ 7,715,758	$ 19,807,510

Comments

Chief Financial Officer

Name Richard Amon

Date 04/15/2025 | 2:53 PM EDT

Signature

X DocuSigned by: Richard Amon 03B88EFF44BD4C5...

		Year 0 (Start Up)	1st Year	2nd year	3rd Year	4th Year	5th Year	TOTALS
	Current Program Uses (if applicable)							
1	Tenure/Tenure-Track Faculty							$ -
2	Non Tenure-Track Faculty							$ -
3	Graduate Student Support							$ -
4	Non-Faculty Positions							$ -
5	Student Support (Scholarships)							$ -
6	Libraries							$ -
7	Supplies and Materials							$ -
8	Travel, Communications, and Fixed Charges							$ -
9	Equipment and Technology							$ -
10	Facility Repair and Renovation							$ -
11	Other (Identify)							$ -
12	**Total Current Uses**	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Proposed New Program Uses							
13	Tenure/Tenure-Track Faculty	-	332,376	332,376	664,752	664,752	997,128	$ **2,991,384**
14	Non Tenure-Track Faculty	-						$ -
15	Graduate Student Support	-	103,245	163,245	266,490	362,490	489,735	$ **1,385,205**
16	Non-Faculty Positions	-	114,764	114,764	114,764	114,764	114,764	$ **573,820**
17	Student Support (Scholarships)	-						$ -
18	Libraries	-						$ -
19	Supplies and Materials	-	2,000	2,000	2,000	2,000	2,000	$ **10,000**
20	Travel, Communications, and Fixed Charges	-						$ -
21	Equipment and Technology	-	5,000	5,000	5,000	5,000	5,000	$ **25,000**
22	Facility Repair and Renovation	-						$ -
23	Facility New Construction or Expansion	-						$ -
24	Other (Identify)- Stipend for adjunct & program direct	-	24,222	24,222	24,222	24,222	24,222	$ **121,111**
25	**Total New Uses**	$ -	$ **581,607**	$ **641,607**	$ **1,077,228**	$ **1,173,228**	$ **1,632,849**	$ **5,106,520**
	Overhead (HR, startup, IT, utilities, classroom renov/tech, etc)		$ 290,804	$ 320,804	$ 538,614	$ 586,614	$ 816,425	$ 2,553,260
26	**Total Proposed Program Uses**	$ -	$ **872,411**	$ **962,411**	$ **1,615,842**	$ **1,759,842**	$ **2,449,274**	$ **7,659,780**

Comments

Chief Financial Officer

Name Richard Amon

Date 04/15/2025 | 2:53 PM EDT

Signature

DocuSigned by:
Richard Amon
03B88EFF44BD4C5...

EAB

EAB MARKET INSIGHTS

Market Pulsecheck for a Bachelor's-Level Artificial Intelligence Program

Completed for the University of North Carolina at Charlotte
February 2025

Research Associate

Grace Warner

Research Manager

Emma Veon

Table of Contents

Market Pulsecheck Overview 4

Labor Market Intelligence 5

Competitive Intelligence 14

Research Process and Sources 17

Market Pulsecheck Overview

An evaluation of employer demand for graduates from bachelor's-level artificial intelligence programs in statewide, regional, and national markets, and of student demand for similar programs.

Analysis Includes:

- Job Posting Trends
- Top Occupations
- Top Skills
- Education Levels
- Degree Completion Trends

This analysis considered demand in areas defined as:

- Statewide: North Carolina
- Regional: District of Columbia, Maryland, South Carolina, and Virginia
- National: the United States

Market Pulsecheck Options for Next Steps

Following this analysis, the requesting partner can:

- Contact your Strategic Leader to schedule a call with the EAB research team to review the report.
- Choose to discontinue the research, if the leadership is able to make a decision based on this analysis and other institutional research.
- Continue the analysis. A final report of the continued research will address credential design and curricular recommendations.

Though Limited Student Demand Offers an Uncertain Competitive Outlook in Profiled Regions, a Healthy Labor Market Indicates Opportunity for New Program Success

Preliminary Program Outlook

Favorable employer demand indicates program graduates will encounter ample opportunities in the statewide and regional labor markets. Statewide and regional employer demand trends signal a healthy market for bachelor's-level artificial intelligence professionals. From February 2024 to January 2025, employers advertised a moderate number of relevant job postings in both statewide and regional labor markets (6,508 and 28,224, respectively). Between February 2022 and January 2025, relevant employer demand declined an average actual eight job postings per month statewide, and seven postings per month regionally. However, during the same period, employer demand in the regional market grew an average monthly 0.45% and 0.15% in the statewide market. Overall, a moderate number of opportunities signals an optimistic market outlook.

No statewide institutions and only one regional institution reported completions under the profiled CIP code. Limited data prevents a complete evaluation of market opportunity in the profiled regions.

Increasing national completions indicate an opportunity for new program development; however, limited student demand and strong competitors may challenge sustainable growth. Rising student demand (net growth of 91 completions) across the 2018-2019 and 2022-2023 academic years bodes well. Notably, Carnegie Mellon University reported the most significant growth between the 2018-2019 and 2022-2023 academic years (net increase of 33 completions) and emerged as the market leader nationally in the most recent profiled year, reporting 33 completions (30.28% market share). Further, 20% of institutions reported 62.39% market share in the 2022-2023 academic year, signaling market concentration. While market concentration and strong competitors signal a challenging competitive landscape, increasing student demand indicates potential for program launch. However, low completions suggest incoming programs will likely see small class sizes.

Research Limitations Summary

Due to limited statewide and regional competitive landscape data, we included national competitive trends in the report to illustrate student interest in relevant programming across the United States. To see our complete methodology, please see pages 15-17.

Labor Market Intelligence

Statewide Analysis of Job Postings for Bachelor's-Level Artificial Intelligence Professionals

Statewide employer demand trends indicate a modest but favorable market for bachelor's-level artificial intelligence professionals. From February 2024 to January 2025, employers advertised a moderate number of relevant job postings (6,508). Between February 2022 and January 2025, relevant employer demand grew an average monthly 0.15%; however, this translates to an average actual decline of eight job postings monthly. During the same period, demand for all bachelor's-level professionals declined 1.05% on average monthly, indicating graduates will likely enter a more favorable market than average. Relatively stable employer demand and a moderate number of relevant job postings over the last 12 months indicate graduates will likely find employment in the statewide market.

+0.15%

Average Monthly Demand Growth

February 2022 - January 2025, Statewide Data

- Average monthly decline of eight job postings.
- During the same period, demand for all bachelor's-level professionals declined 1.05%.

1,191 postings

Average Monthly Demand

February 2022 - January 2025, Statewide Data

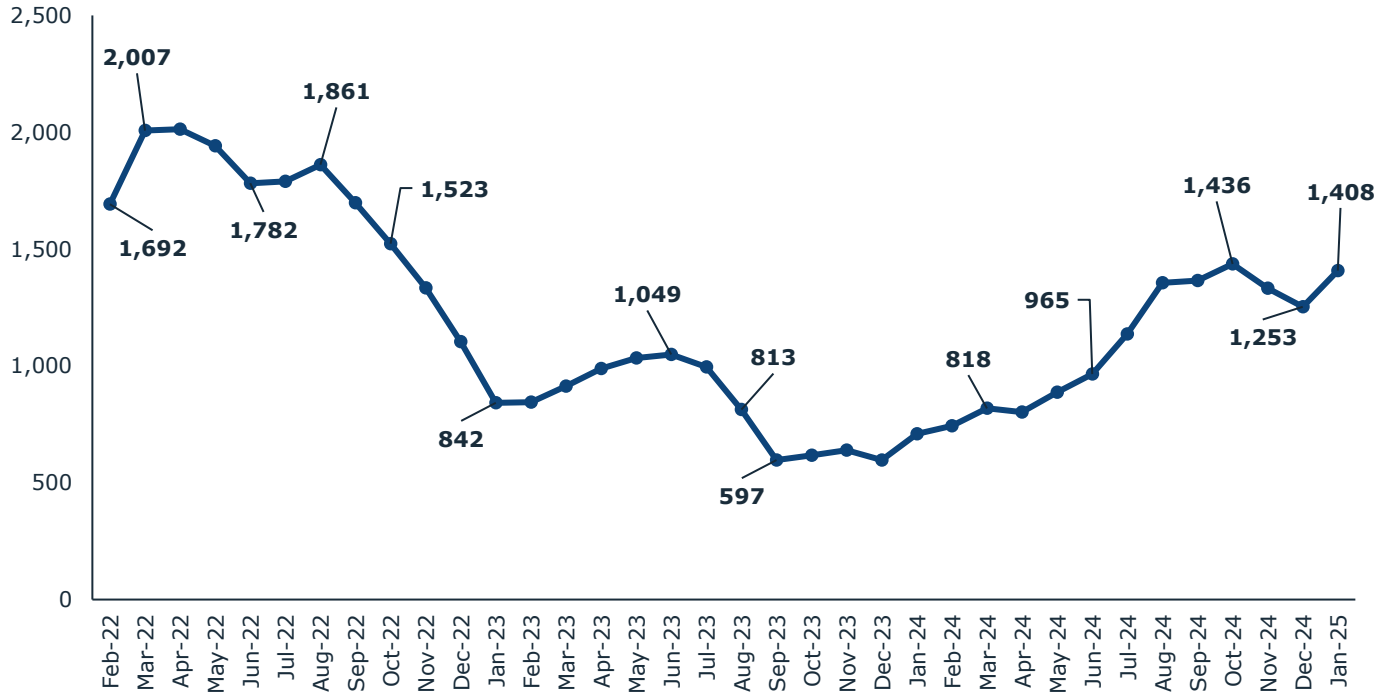
6,508 postings

Relevant Jobs Posted in the Past Year

February 2024 - January 2025, Statewide Data

Job Postings for Bachelor's-Level Artificial Intelligence Professionals

February 2022 - January 2025, Statewide Data



Source: EAB analysis. Lightcast.

Regional Analysis of Job Postings for Bachelor's-Level Artificial Intelligence Professionals

Regional employers demonstrated a moderate but increasing need over the profiled period, advertising 28,224 postings between February 2024 and January 2025. Over the last 36 months, regional employer demand increased by an average monthly 0.45%, while demand for all bachelor's-level professionals declined an average monthly 0.80%. Moderate but growing student demand indicates graduates will enter an expanding labor market.

+0.45%

Average Monthly Demand Growth

February 2022 - January 2025, Regional Data

- Average monthly growth of seven job postings.
- During the same period, demand for all bachelor's-level professionals declined 0.80%.

5,430 postings

Average Monthly Demand

February 2022 - January 2025, Regional Data

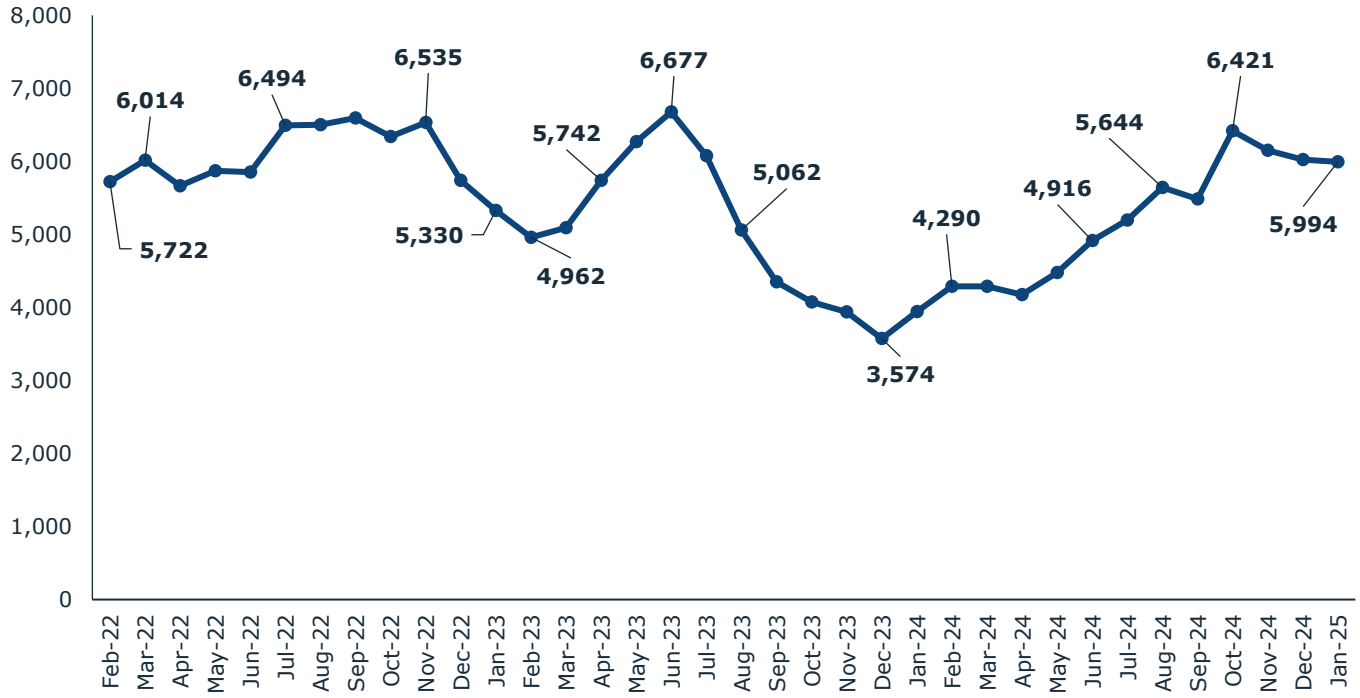
28,224 postings

Relevant Jobs Posted in the Past Year

February 2024 - January 2025, Regional Data

Job Postings for Bachelor's-Level Artificial Intelligence Professionals

February 2022 - January 2025, Regional Data



Source: EAB analysis. Lightcast.

Statewide Analysis of Job Postings and Future Employment for Artificial Intelligence Professionals

Employment is projected to increase faster than average in all of the top five occupations between 2025 and 2035, indicating an optimistic outlook for future job growth. Job titles listed under the occupation Computer Occupations, All Other include Product Owners, Cybersecurity Engineers, and Cloud Architects.

While these occupations represent the most common occupations appearing in job postings for bachelor's-level artificial intelligence professionals, projected employment data considers all jobs within an occupation at all degree levels.

Top Occupations Across Job Postings for Bachelor's-Level Artificial Intelligence Professionals

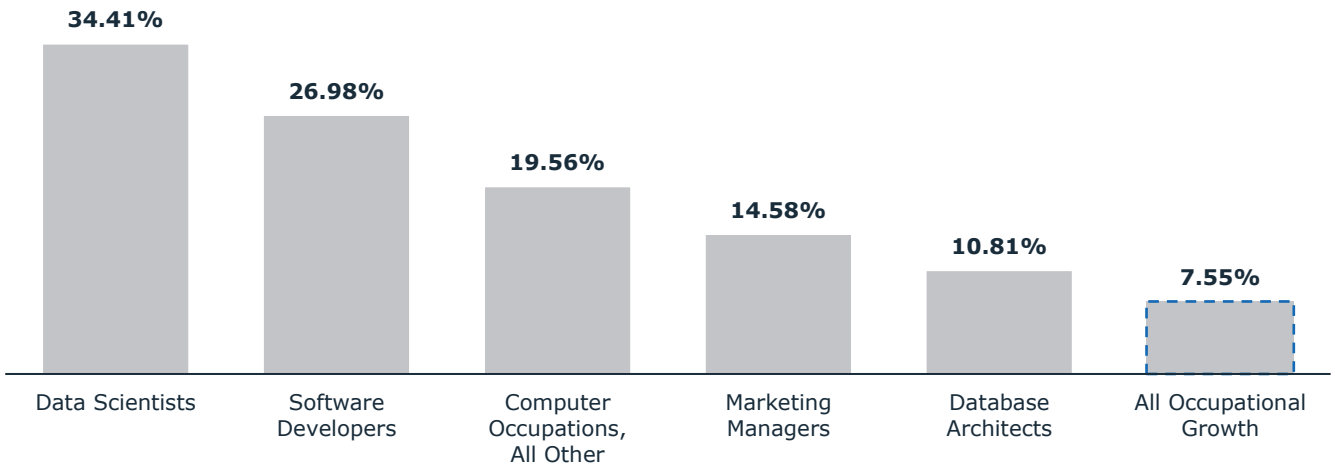
February 2024 - January 2025, Statewide Data

n = 6,508 job postings

Occupation	Percent of Relevant Job Postings within Occupation	Number of Relevant Job Postings within Occupation
Data Scientists	18.12%	1,179
Software Developers	17.73%	1,154
Computer Occupations, All Other	12.77%	831
Marketing Managers	5.01%	326
Database Architects	4.98%	324
Database Administrators	3.76%	245
Management Analysts	2.52%	164
Financial Risk Specialists	2.30%	150
Market Research Analysts and Marketing Specialists	2.01%	131
General and Operations Managers	1.61%	105

Projected Employment in Top Occupations[1]

2025 - 2035, Statewide Data



1) Top occupations refer to the occupations in which employers most often seek relevant professionals.

Source: EAB analysis. Lightcast.

Regional Analysis of Job Postings and Future Employment for Artificial Intelligence Professionals

Regional employment is projected to increase faster than average for four of the top five occupations in the next decade. This indicates employment opportunities for graduates will likely increase in the coming years. The Bureau of Labor Statistics projects an increase in demand for the occupation Data Scientists due to growing need for data scientists to mine and analyze large amounts of information and data required for business decisions.

While these occupations represent the most common occupations appearing in job postings for bachelor's-level artificial intelligence professionals, projected employment data considers all jobs within an occupation at all degree levels.

Top Occupations Across Job Postings for Bachelor's-Level Artificial Intelligence Professionals

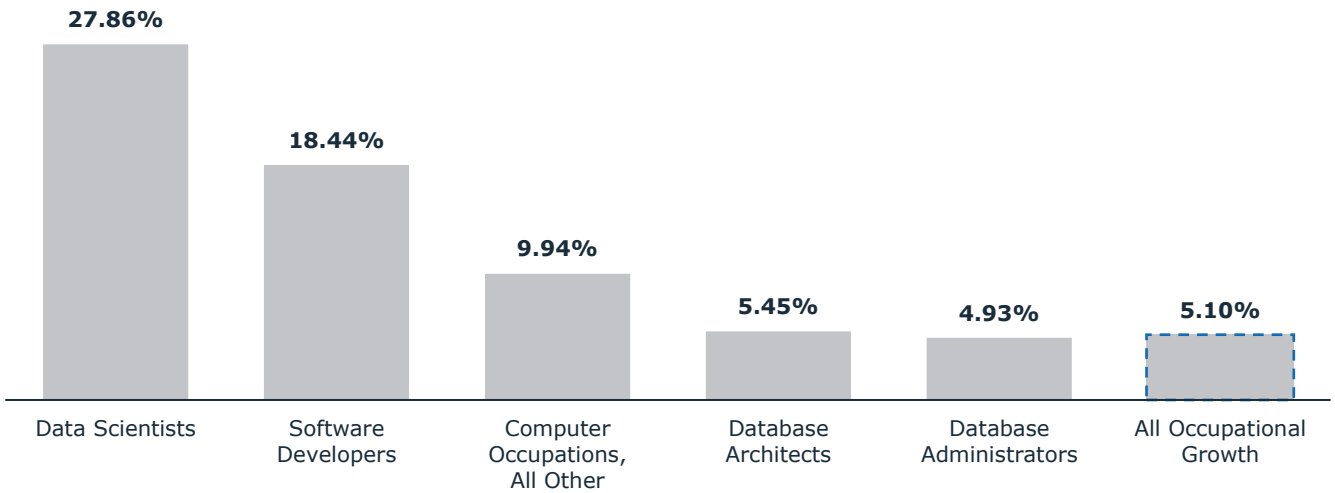
February 2024 - January 2025, Regional Data

n = 28,224 job postings

Occupation	Percent of Relevant Job Postings within Occupation	Number of Relevant Job Postings within Occupation
Software Developers	21.75%	6,138
Data Scientists	19.90%	5,616
Computer Occupations, All Other	13.57%	3,829
Database Administrators	4.42%	1,247
Database Architects	3.96%	1,117
Marketing Managers	2.58%	729
Management Analysts	1.95%	551
Project Management Specialists	1.54%	435
Web Developers	1.39%	391
Web and Digital Interface Designers	1.30%	368

Projected Employment in Top Occupations[1]

2025 - 2035, Regional Data



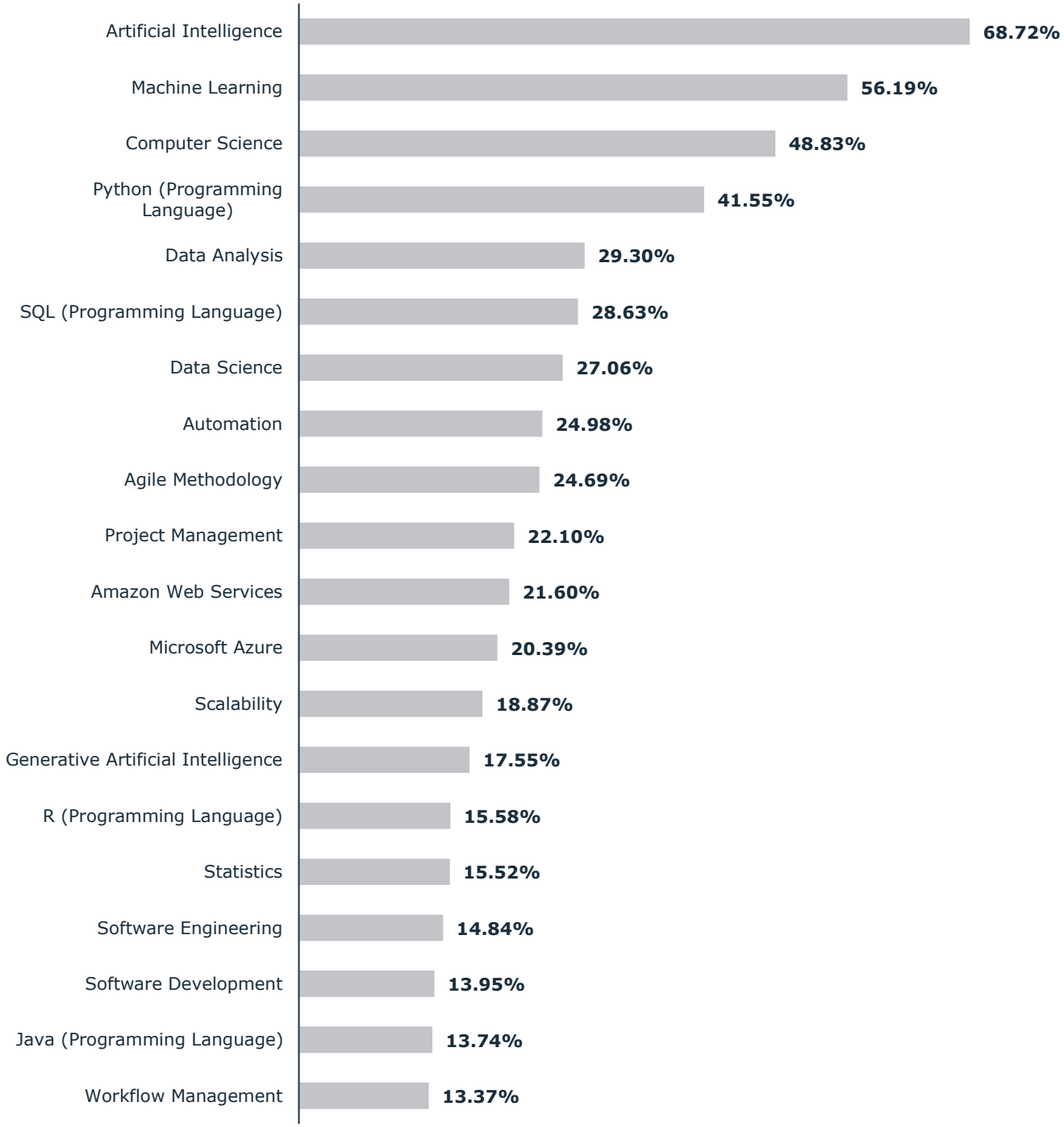
1) Top occupations refer to the occupations in which employers most often seek relevant professionals.

Source: EAB analysis. Lightcast.

Top Skills in Job Postings for Bachelor's-Level Artificial Intelligence Professionals

February 2024 - January 2025, Statewide Data

n = 6,508 job postings

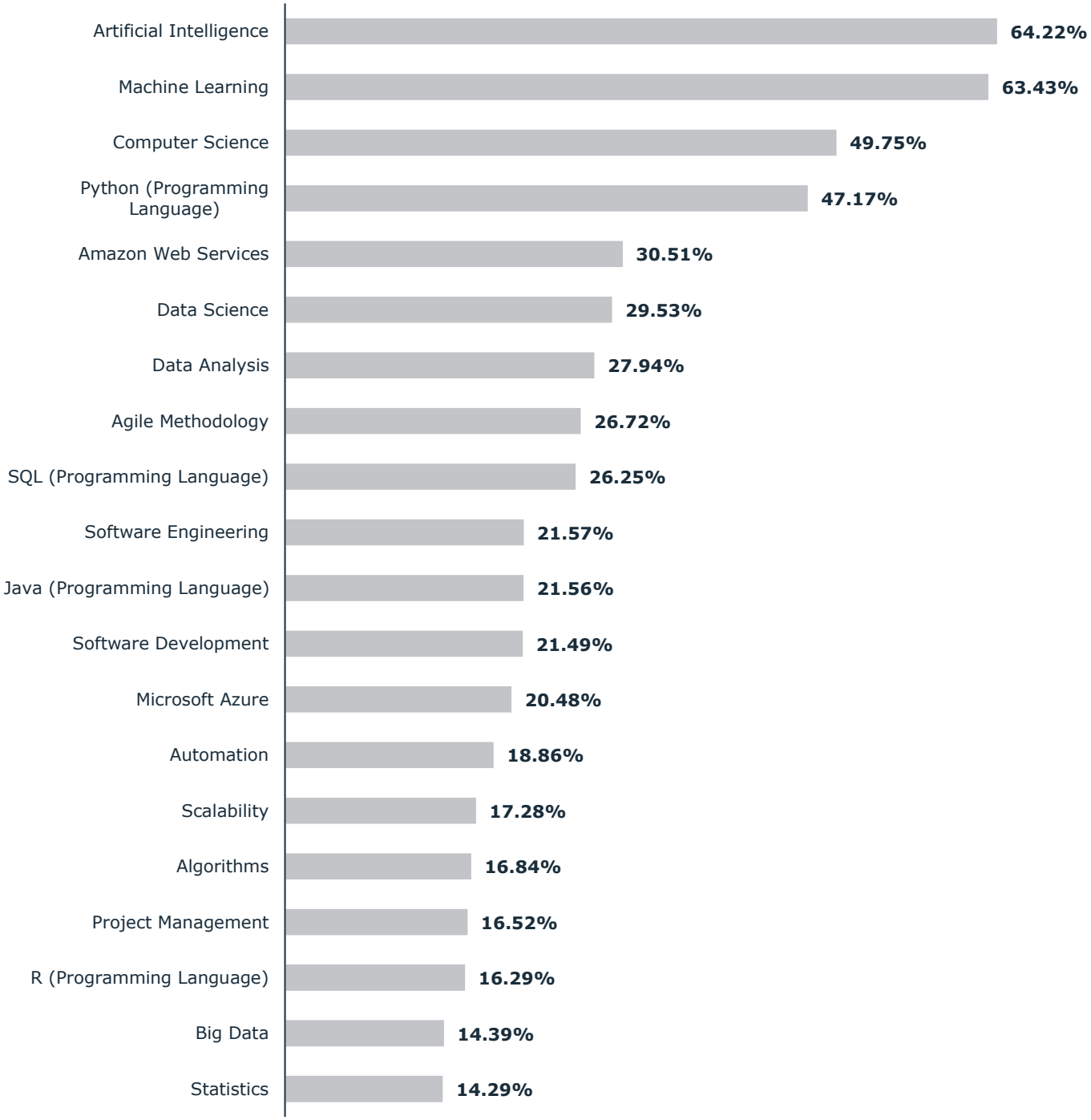


Source: EAB analysis. Lightcast.

Top Skills in Job Postings for Bachelor's-Level Artificial Intelligence Professionals

February 2024 - January 2025, Regional Data

n = 28,224 job postings

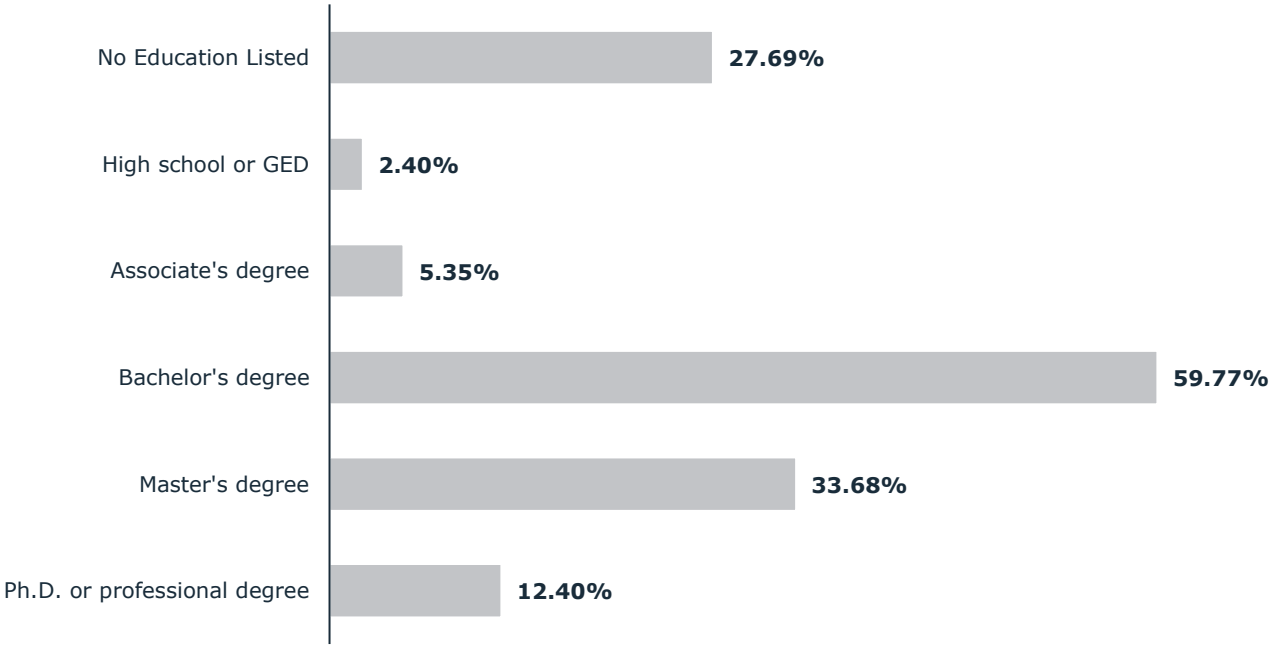


Source: EAB analysis. Lightcast.

Education Levels Requested of Artificial Intelligence Applicants[1]

February 2024 - January 2025, Statewide Data

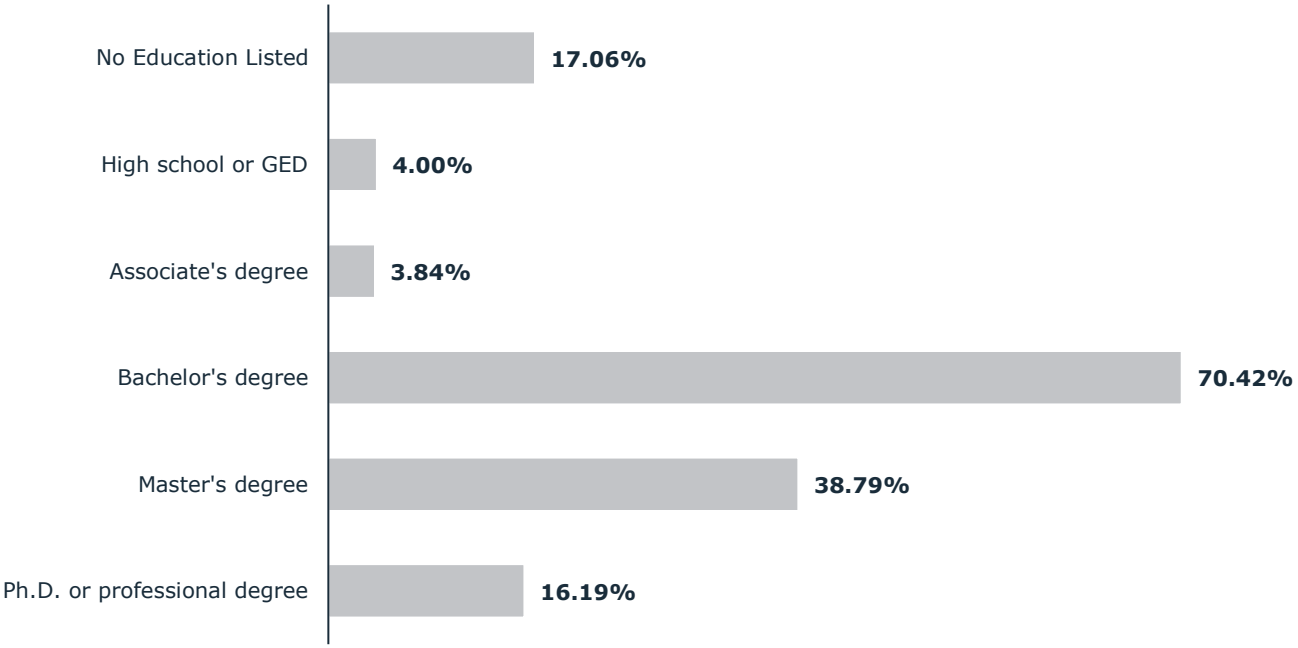
n = 10,888 job postings



Education Levels Requested of Artificial Intelligence Applicants[1]

February 2024 - January 2025, Regional Data

n = 40,077 job postings



1) The n-value reflects the number of job postings requesting any degree level artificial intelligence applicants rather than the number of postings requesting only those at the focus degree level.

Source: EAB analysis. Lightcast.

Competitive Intelligence

Regional Analysis of Bachelor's-Level Artificial Intelligence Completions Under CIP Code Artificial Intelligence (11.0102)

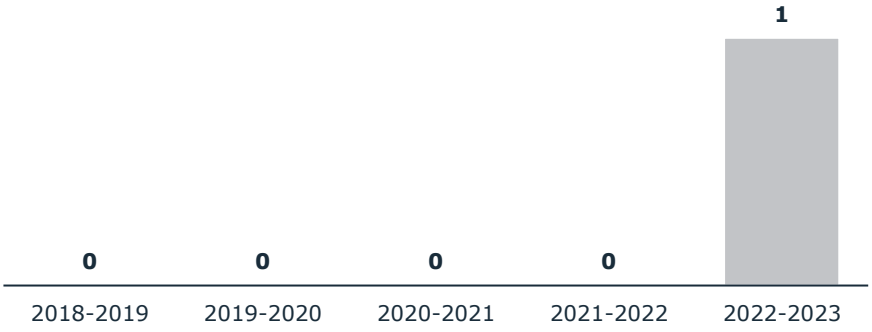
There were no reported completions between the 2018-2019 and 2022-2023 academic years in the regional market. Marymount University reported zero completions in the 2022-2023 academic year. Overall, limited data and student demand indicate an inconclusive competitive landscape outlook.

Completions Reported Over Time

2018-2019 to 2022-2023 Academic Years, Regional Data

Institutions Reporting Completions Over Time

2018-2019 to 2022-2023 Academic Years, Regional Data



0.00%

Average Annual Completions Growth

2018-2019 to 2022-2023 Academic Years, Regional Data

- During the same period, the number of institutions reporting completions grew by a net of one institution.

0.00%

Institutions Reporting Completions with a 100% Distance-Delivery Option

2022-2023 Academic Year, Regional Data

Institution Reporting Completions

2018-2019 to 2022-2023 Academic Years, Regional Data

Institution	Reported Completions, 2018-2019 Academic Year	Market Share, 2018-2019 Academic Year	Reported Completions, 2022-2023 Academic Year	Market Share, 2022-2023 Academic Year	Completions Reported via Distance-Delivery, 2022-2023 Academic Year
Marymount University	Not Offered	Not Offered	0	0.00%	No

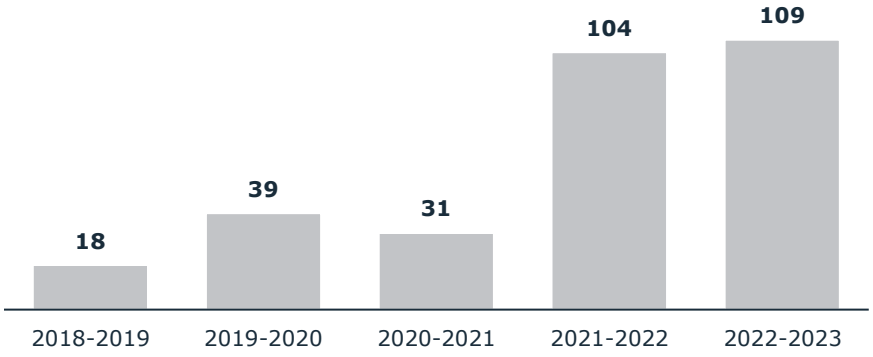
Source: EAB analysis. National Center for Education Statistics.

National Analysis of Bachelor's-Level Artificial Intelligence Completions Under CIP Code Artificial Intelligence (11.0102)

The number of national completions experienced a jump of 73 completions between the 2020-2021 and 2021-2022 academic years, indicating dramatic growth in student demand. During the 2018-2019 to 2022-2023 academic years, competition also increased rapidly, rising an average 48.39% annually (net of 15 institutions). Though fast-rising completions signal a favorable competitive market, a limited number of mean and median completions (5.74 and 2.00, respectively, in the 2022-2023 academic year) indicates small class sizes among national programs.

Completions Reported Over Time

2018-2019 to 2022-2023 Academic Years, National Data



84.11%

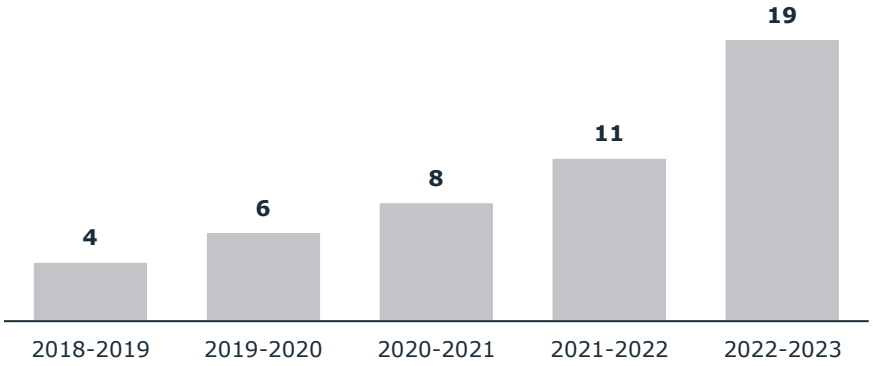
Average Annual Completions Growth

2018-2019 to 2022-2023 Academic Years, National Data

- During the same period, the number of institutions reporting completions grew by 48.39% on average annually.

Institutions Reporting Completions Over Time

2018-2019 to 2022-2023 Academic Years, National Data



10.53%

Institutions Reporting Completions with a 100% Distance-Delivery Option

2022-2023 Academic Year, National Data

Completions per Institution Reporting

2018-2019 and 2022-2023 Academic Years, National Data

Source: EAB analysis. National Center for Education Statistics.

National Analysis of Bachelor's-Level Artificial Intelligence Completions Under CIP Code Artificial Intelligence (11.0102)

Full Sail University reported all 18 national completions in the 2018-2019 academic year but trailed behind Carnegie Mellon University in the 2022-2023 academic year, reporting the second-highest number of completions (19). Carnegie Mellon University reported the most significant growth over this same period and emerged as the market leader in the most recent profiled year, reporting 33 completions (30.28% market share). The top 20% of institutions reported 62.39% market share in the 2022-2023 academic year, signaling market concentration. While rising student interest in relevant programming bodes well, strong and growing competition may challenge new program growth.

Institutions with Most Reported Completions

2018-2019 and 2022-2023 Academic Years, National Data

Institution	Reported Completions, 2018-2019 Academic Year	Market Share, 2018-2019 Academic Year	Reported Completions, 2022-2023 Academic Year	Market Share, 2022-2023 Academic Year	Completions Reported via Distance-Delivery, 2022-2023 Academic Year
Carnegie Mellon University	0	0.00%	33	30.28%	No
Full Sail University	18	100.00%	19	17.43%	No
Concordia University-Wisconsin	Not Offered	Not Offered	16	14.68%	No
University of Advancing Technology	Not Offered	Not Offered	10	9.17%	Yes
Pennsylvania State University-Main Campus	Not Offered	Not Offered	7	6.42%	No
Illinois Institute of Technology	0	0.00%	5	4.59%	No
Massachusetts Institute of Technology	Not Offered	Not Offered	4	3.67%	No
DigiPen Institute of Technology	Not Offered	Not Offered	3	2.75%	No
Drake University	Not Offered	Not Offered	3	2.75%	No
Indiana University-Bloomington	0	0.00%	2	1.83%	No

62.39%

Conferrals by top 20% of institutions

2022-2023 Academic Year, National Data

Source: EAB analysis. National Center for Education Statistics.

Research Process and Sources

EAB conducted an analysis to assess a proposed new programming opportunity.

All workforce demand data was collected from Lightcast, EAB's labor market intelligence partner. Competitive data was collected from the National Center for Education Statistics via the Lightcast platform.

1

Step One: Labor Market Analysis

This report includes an analysis of external labor market needs to determine demand for program graduates. Researchers evaluate historical job postings and future employment projections to determine if the labor market supports program growth.

2

Step Two: Competitive Landscape Analysis

The volume and growth of degree conferrals serves as an indicator of student demand for the program being evaluated. Researchers use conferral data to determine if the selected program is facing a crowded market or if it may struggle to attract students due to declining student interest.

3

(Optional) Step Three: Comparator Program Analysis

Researchers analyze how the design and curricula of similar programs should inform the structure and format of the proposed new program. The researchers collect information publicly available on profiled programs' webpages.

Research Methodology

EAB's market insights research guides strategic programmatic decisions at partner institutions. The Market Insights Service combines qualitative and quantitative data to help administrators identify opportunities for new program development, assess job market trends, and align curriculum with employer and student demand.

Unless stated otherwise, this report includes data from online job postings from January 2024 to December 2024. To best estimate employer demand for bachelor's-level artificial intelligence professionals, we analyzed job postings for bachelor's-level professionals with relevant skills (e.g., artificial intelligence, artificial intelligence development).

Research Questions

The requesting partner asked:

- **How has demand for graduates of my program evolved over time?**
- **What skills should the program teach to prepare students to meet employer demand?**
- **Which employers demonstrate the greatest demand for graduates?**
- **What education level do employers most frequently request from relevant professionals?**
- How are similar programs structured?
- How are similar programs delivered?
- What experiential or practical learning do similar programs offer?

Bolded questions were addressed within this analysis; remaining questions will be addressed if partner pursues additional research.

Research Limitations

Due to a limited student demand data in the state and region, we analyzed completions for bachelor's-level artificial intelligence dance at the national level in the competitive landscape analysis.

As institutions self-report degree completions data, the analyzed CIP code may not fully capture completions for all comparable programs in the profiled regions. Institutions may also report completions for programs unrelated to artificial intelligence under the CIP code analyzed in this report. Further, additional online programs may exist that are not captured in NCES data, as not all institutions offering a distance-delivery program report it as such. Additionally, if an institution offers multiple modalities, completions data will not distinguish between the number of online completions and face-to-face completions.

Definitions

- CIP code refers to the Classification of Instructional Programming code.
- Statewide refers to North Carolina.
- Region and regional refer to the following states: Virginia, Maryland, South Carolina, and the District of Columbia.
- National and nationally refer to the United States.

Data Sources

Lightcast
https://lightcast.io/

This report includes data made available through EAB's partnership with Lightcast (formerly known as Emsi Burning Glass), a labor market analytics firm serving higher education, economic development, and industry leaders in the U.S., Canada, and the United Kingdom.

Lightcast curates and maintains the most comprehensive labor market data sets available for academic program planning, providing real-time job posting data, workforce and alumni outcomes data, and traditional government sources of data. Under this partnership, EAB may use Lightcast proprietary Analyst™ and Alumni Insight™ tools to answer partner questions about employer demand, the competitive landscape, in-demand skills, postings versus actual hires, and skills gaps between job postings and professionals in the workforce. The Lightcast tools also provide EAB with in-depth access to unsuppressed, zip-code-level government data for occupations, industries, programs, and demographics. For more complete descriptions of the Lightcast tools, visit:

- https://lightcast.io/solutions/education/analyst
- https://lightcast.io/solutions/education/alumni-pathways

To learn more about Lightcast and its software and services, please contact Bob Hieronymus, Vice President of Business Development at bob.hieronymus@lightcast.io.

Integrated Postsecondary Education Data System (IPEDS)
https://nces.ed.gov/ipeds/

The Integrated Postsecondary Education Data System (IPEDS) is the Department of Education's National Center for Education Statistics' (NCES) core postsecondary education data collection program. Information is collected annually from all providers of postsecondary education in fundamental areas such as enrollment, program completion and graduation rates, institutional costs, student financial aid, and human resources.

Data collected through IPEDS is publicly released and can be accessed through the IPEDS Data Center by postsecondary education institutions and the general public. The IPEDS Data Center is designed as a centralized, web-based tool for the retrieval and analysis of IPEDS data, the system allows users to access and evaluate institutional data using a wide-range of analytical features that includes the ability to construct customized data sets, download full data files, and create statistical and trend analyses reports.

United States Bureau of Labor Statistics (BLS)
https://nces.ed.gov/ipeds/

EAB Research and Insights Library
https://eab.com/research-and-insights/

EAB

Education's Trusted Partner to Help Schools and Students Thrive

Your Imperatives Determine Ours

INSTITUTIONAL STRATEGY

Prepare Your Institution for the Future

Executive guidance rooted in research to support your strategic priorities

MARKETING AND ENROLLMENT

Achieve Your Enrollment and Growth Goals

Tailored partnerships powered by a recruitment ecosystem with unrivaled reach to enroll your future classes

STUDENT SUCCESS

Build a Student-Centric Campus

Technology trusted by 850 schools to retain, graduate, and empower more students

DIVERSITY, EQUITY, AND INCLUSION

Advance DEI on Campus and in Your Community

Technology, research, and bold initiatives to strengthen your DEI strategy and eliminate equity gaps

DATA AND ANALYTICS

Embrace Digital Transformation

Data and analytics solutions built for higher education to guide decisions and accelerate innovation

We partner with 2,500+ institutions to accelerate progress and enable lasting change.

95%+ of our partners return to us year after year because of results we achieve, together.

202-747-1000 | **eab.com**

@eab **@eab_** **@WeAreEAB** **@eab.life**

ABOUT EAB

At EAB, our mission is to make education smarter and our communities stronger. We work with thousands of institutions to drive transformative change through data-driven insights and best-in-class capabilities. From kindergarten to college to career, EAB partners with leaders and practitioners to accelerate progress and drive results across five major areas: enrollment, student success, institutional strategy, data analytics, and diversity, equity, and inclusion (DEI). We work with each partner differently, tailoring our portfolio of research, technology, and marketing and enrollment solutions to meet the unique needs of every leadership team, as well as the students and employees they serve. Learn more at eab.com.

Appendix C: Existing AI Program Interest

UNC Charlotte's **existing AI-related programs and courses** demonstrate strong and sustained student interest:

- **M. S. Computer Science with AI, Robotics, and Gaming Concentration:** Over 600 students in the MS in CS program and approximately 100 students enrolled in the "AI, Robotics, and Gaming" concentration. This reflects significant demand for AI-related studies within the Computer Science major.
- **AI-Related Courses:**
    - Seven AI-focused courses recently offered: *Natural Language Processing (Fall)*, *Introduction to Artificial Intelligence (Fall & Spring)*, *Introduction to Machine Learning (Fall & Spring)*, and *Computer Vision (Spring), Intelligent Robotics (Spring), Mobile Robotics (Fall), and Special Topics: AI Literacy (Intermittently)*.
    - **Fall Enrollment:** 323 students across three of the four fall courses.
    - **Spring Enrollment:** 333 students currently enrolled in three of the four spring courses, demonstrating continued demand.

Master of Science in Artificial Intelligence					Cells highlighted in yellow have a prerequisite.
Note: This plans of study are to be used as a guide for students to make their own individual plans based on previously completed coursework, graduation plan, and personal preferences. This is not a defined prescription of when to take courses and individual planning should be made in consultation with the major academic advisor and the use of DegreeWorks.					
Semester One	**Credit Hours**	**Semester Two**	**Credit Hours**		**Technical Courses (choose any three ; 9 credit hours):**
ITAI 5153 - Introduction to Artificial Intelligence and Ethics	3	ITAI 5160 - Database and Cloud for Artificial Intelligence **or** ITAI 6153 - Machine Learning Operations **or** ITAI 5154 - AI-Driven Trustworthy Software Development	3		*Machine Learning Cluster*
ITCS 5356 - Machine Learning Models **or** ITCS 5154 – Applied Machine Learning	3	Technical Course	3		ITCS 6101 - Introduction to Natural Language Processing
ITCS 6150 - Foundations of Artificial Intelligence **or** ITCS 5153 - Applied Artificial Intelligence	3	Technical Course	3		ITCS 6156 - Machine Learning
					ITCS 6169 - Introduction to Computer Vision
Total Hours	9	**Total Hours**	9		*Robotics and Decision Making Cluster*
Semester Three	**Credit Hours**	**Semester Four**	**Credit Hours**		ITCS 5150 - Mobile Robotics
Technical Course	3	Capstone Course	3		ITCS 6151 - Intelligent Robotics
General Elective Course	3				ITCS 6152 - Robot Motion Planning
General Elective Course	3				ITCS 6050 - Topics in Artificial Intelligence

					Human-AI Interaction Cluster
Total Hours	9	**Total Hours**	3		ITCS 6121 - Data and Information Visualization
		Degree Total Hours	30		ITCS 5123 - Visualization and Visual Communication
					ITCS 5122 - Visual Analytics
					ITIS 5360 - Human-Centered Artificial Intelligence
					ITIS 5353 - Social Technology Design
					AI System Design Cluster
					ITAI 5160 - Database and Cloud for Artificial Intelligence
					ITAI 6153 - Machine Learning Operations
					ITAI 5154 - AI-Driven Trustworthy Software Development
					ITCS 6145 - Parallel Computing
					AI Security Cluster
					ITIS 5271 - Secure and Trustworthy Artificial Intelligence
					ITIS 5270 - Artificial Intelligence Risk Management
					ITIS 6220 - Data Privacy
					Capstone Course (choose one ; 3 credit hours):
					ITAI 6153 - Machine Learning Operations

					ITAI 5154 - AI-Driven Trustworthy Software Development
					ITAI 6155 - Artificial Intelligence Development Projects
					ITAI 6880 - Individual Study (1-3)
					ITAI 6991 - Artificial Intelligence Thesis (1-3)

New Course List:

- ITAI 5153 - Introduction to Artificial Intelligence and Ethics
- ITAI 6153 - Machine Learning Operations
- ITAI 5160 - Database and Cloud for AI
- ITAI 5154 - AI-Driven Development
- ITIS 5271 - Secure and Trustworthy Artificial Intelligence
- ITIS 5270 - Artificial Intelligence Risk Management
- ITAI 6880 - Individual Study
- ITAI 6991 - Artificial Intelligence Thesis
- ITAI 6155 - Artificial Intelligence Development Projects

	Core				Capstone	Tech Courses (cluster suggestions, choose 9 cr)																					Electives
						Machine Learning Cluster			Robotics and Decision Making Cluster				AI Security Cluster			Human-AI Interaction							AI System Design					
	ITAI 5153	ITCS 5356 OR ITCS 5154	ITCS 6150 OR ITCS 5153	ITAI 5160 OR ITAI 6153 OR ITAI 5154	Various	ITCS 6101	ITCS 6156	ITCS 6169	ITCS 5150	ITCS 6151	ITCS 6152	ITCS 6050	ITAI 5270	ITAI 5271	ITIS 6220	ITCS 6121	ITCS 5123	ITCS 6125	ITCS 5122	ITIS 5360	ITIS 5353	ITAI 5160	ITAI 6153	ITAI 5154	ITCS 6190	ITCS 6145	Various
Programmatic SLOs																											
Graduates will be able to assess the strengths, limitations, and impacts of AI models in real-world scenarios	I, A				P							P	P	P	P					P	P			P			
Graduates will be able to apply machine learning models in order to extract meaning from data, identify patterns, and create predictions.		I, A			P	P	P	P															P				
Graduates will be able to design and implement AI-driven solutions using foundational algorithms, frameworks, and methodologies to solve real-world problems.			I, A		A				P	P	P	P															
I = Introduced, P = Practiced, A = Assessed																											

SLO MSAI1: Graduates will be able to assess the strengths, limitations, and impacts of AI models in real-world scenarios					
Passing Requirements: 80% of the program participants must score "acceptable" or better. Points are determined by rubric (1-3).					
			Rubric Ratings		
Class	Skill/Knowledge	Assessed?	Advanced (3)	Acceptable (2)	Unacceptable (1)
ITAI 5153	Describe the strengths of an AI model.	Yes	Accurately describes the strengths of an AI model, including factors like accuracy, efficiency, scalability, or adaptability. Can relate these strengths to real-world applications with relevant examples and justify why a specific approach is well-suited for a given problem, considering trade-offs and ethical implications.	Accurately describes the strengths of an AI model, including factors like accuracy, efficiency, scalability, or adaptability.	Fails to identify key strengths of an AI model or provides vague, incorrect, or overly simplistic explanations. Lacks understanding of how model performance is measured or why certain models are effective in specific scenarios.
ITAI 5153	Describe the weaknesses of an AI model.	Yes	Clearly describes an AI model's weaknesses, acknowledging issues like bias, data dependency, generalization limitations, or computational constraints. Can provide real-world examples of when/how these weaknesses might impact performance and how those weaknesses may be mitigated.	Clearly describes an AI model's weaknesses, acknowledging issues like bias, data dependency, generalization limitations, or computational constraints.	Struggles to identify limitations or provides incorrect or overly general statements. Fails to recognize key challenges such as bias, overfitting, computational cost, or lack of interpretability.

ITAI 5153	Evaluate AI's impact on technology, user experience, or society.	Yes	Provides a deep and well-supported evaluation of AI's impact, incorporating technical, ethical, and societal considerations. Anticipates long-term consequences and recognizes multiple, sometimes differing, perspectives.	Evaluates AI's effects on technology, user experience, or society with relevant examples. Recognizes both benefits and risks but may lack the ability to incorporate different perspectives.	Fails to assess AI's impact beyond surface-level observations. Lacks critical thinking or provides simplistic arguments without evidence.

SLO MSAI2: Graduates will be able to apply machine learning models in order to extraxt meaning from data, identify patterns, and create predictions.					
Passing Requirements: 80% of the program participants must score "acceptable" or better. Points are determined by rubric (1-3).					
			Rubric Ratings		
Class	Skill/Knowledge	Assessed?	Advanced (3)	Acceptable (2)	Unacceptable (1)
	Implement machine learning models to extract meaningful insights from data	Yes	Selects and fine-tunes the best model for a given problem. Understands how to clean and structure data, interpret results, and explain insights clearly.	Uses appropriate machine learning models to analyze data and find patterns. Prepares data properly and applies basic techniques like regression, clustering, or neural networks.	Cannot correctly apply machine learning models or misuses data. Shows little understanding of how models work or what insights they provide.
	Identify patterns and relationships in data using machine learning	Yes	Effectively uncovers hidden patterns using advanced techniques. Evaluates results critically and understands their significance in real-world applications.	Finds patterns in data using classification, clustering, or dimensionality reduction. Interprets trends and relationships with reasonable accuracy.	Struggles to recognize patterns or misinterprets results. Uses incorrect models or lacks validation.

	Develop predictive models for data-driven decision-making	Yes	Develops and optimizes predictive models, tuning them for accuracy and reliability. Addresses issues like overfitting and bias to improve real-world performance.	Builds predictive models using algorithms like k-NN, logistic regression, or neural networks. Evaluates performance with standard metrics.	Fails to create a working predictive model or does not evaluate its accuracy. Predictions are unreliable.

SLO MSAI3: Graduates will be able to design and implement AI-driven solutions using foundational algorithms, frameworks, and methodologies.					
Passing Requirements: 80% of the program participants must score "acceptable" or better. Points are determined by rubric (1-3).					
			Rubric Ratings		
Class	Skill/Knowledge	Assessed?	Advanced (3)	Acceptable (2)	Unacceptable (1)
Capstone	Apply AI algorithms to solve real-world problems	Yes	Designs and optimizes AI-driven solutions for complex, real-world problems. Selects the best algorithm for the task, fine-tunes parameters, and evaluates performance using advanced techniques.	Applies appropriate AI algorithms, such as search, reinforcement learning, or neural networks, to solve structured problems. Implements solutions using standard AI frameworks with reasonable accuracy and efficiency.	Struggles to implement AI algorithms correctly or selects inappropriate methods for a given problem. Code is incomplete, incorrect, or does not function as intended.
ITCS 6150 OR ITCS 5153	Utilize AI frameworks and tools to develop intelligent systems	Yes	Expertly utilizes AI frameworks, optimizing models for efficiency and scalability. Demonstrates proficiency in deploying AI systems, integrating multiple technologies, and improving model performance based on real-world constraints.	Uses AI frameworks and libraries to build intelligent systems, leveraging pre-trained models or training custom models. Understands how to integrate AI solutions into software applications.	Fails to effectively use AI frameworks (e.g., TensorFlow, PyTorch, OpenCV, Azure AI). Demonstrates little understanding of how these tools support AI development.

Percentages **within the table** represent the amount of content shared.Percentages in colun

New Curriculum, M.S. in Artificial Intelligence / **(Old) Curriculum, M.S. in Computer Science with Concentration in AI, Robotics, and Gaming**

Core Courses

% of Curriculum New*	Curriculum Section	% of Section New*	Clusters	Course Names	Credits	% of Course New	ITCS 5356 (of)	ITCS 6114	ITCS 6120	ITCS 6150 ((Choose one))	ITCS 6151	ITCS 6152	ITCS 6156	ITCS 5122 (Management Core)	ITCS 6162	ITCS 6190	ITCS 6141 (Networks Core)	ITCS 6145	ITCS 6166
							3			3				3			3		
1%-10%	Core12 cr	24% - 29%	(Required)	ITAI 5153	3	55%													
			ML Core (Choose one)	ITCS 5356	3	0%	100%												
				ITCS 5154		0%													
			AI Core (Choose one)	ITCS 6150	3	0%				100%									
				ITCS 5153		0%													
				ITAI 5160		60%									5%	15%			
			(Choose one)	ITAI 6153	3	55%									10%	20%			
				ITAI 5154		40%													
0% - 16%	Technical Courses 9 cr (Choose any three. Clusters are suggestions)	0% - 52%	ML Cluster	ITCS 6101	9	0%													
				ITCS 6156		0%													
				ITCS 6169		0%													
			Robotics & Decision Making Cluster	ITCS 5150		0%													
				ITCS 6151		0%													
				ITCS 6152		0%													
				ITCS 6050		0%													
				ITCS 6121		0%													
			Human- AI Interaction Cluster	ITCS 5123		0%													
				ITCS 6125		0%													
				ITCS 5122		0%								100%					
				ITIS 5360		0%													
				ITIS 5353		0%													
			AI System Design Cluster	ITAI 5160 (see above)															
				ITAI 6153 (see above)															
				ITAI 5154 (see above)															
				ITCS 6190		0%										100%			
				ITCS 6145		0%												100%	
			AI Security Cluster	ITAI 5271		85%													
				ITAI 5270		70%													
				ITIS 6220		0%													
	Electives 6 cr		Various		6														
10%	Capstone 3 cr (Choose one)	100%		ITAI 6153 (see above)	3														
				ITAI 5154 (see above)															
				ITAI 6880		100%													
				ITAI 6991		100%													
Total: 11% - 36%																			

Concentration Electives(Choose three) — 9

Course Names	ITCS 5150	ITCS 5153	ITCS 5154	ITCS 5230	ITCS 5231	ITCS 5232	ITCS 5235	ITCS 5236	ITCS 6050	ITCS 6101	ITCS 6115	ITCS 6120	ITCS 6121	ITCS 6121	ITCS 6125	ITCS 6134	ITCS 6150	ITCS 6151	ITCS 6152	ITCS 6156	ITCS 6169	ITCS 6311	ITCS 6490	ITCS 6881	ITCS 6991
ITAI 5153		20%	15%																	10%					
ITCS 5356																									
ITCS 5154			100%																						
ITCS 6150																									
ITCS 5153		100%																							
ITAI 5160																									
ITAI 6153																									
ITAI 5154																									
ITCS 6101										100%															
ITCS 6156																				100%					
ITCS 6169																					100%				
ITCS 5150	100%																								
ITCS 6151																		100%							
ITCS 6152																			100%						
ITCS 6050									100%																
ITCS 6121													100%												
ITCS 5123																									
ITCS 6125															100%										
ITCS 5122																									
ITIS 5360																									
ITIS 5353																									
ITAI 5160 (see above)																									
ITAI 6153 (see above)																									
ITAI 5154 (see above)																									
ITCS 6190																									
ITCS 6145																									
ITAI 5271																									
ITAI 5270																									
ITIS 6220																									
Various																									
ITAI 6153 (see above)																									
ITAI 5154 (see above)																									
ITAI 6880																									
ITAI 6991																									

(Choose 2) — 6

Course Names	ITCS 6100 (Optional)	ITCS 6160 (Optional)	ITCS 5010 (AI-Driven Dvmt,	ITCS 5123 (Optional)	ITIS 5221	ITIS 5360	ITIS 5353	ITIS 6200	ITIS 6214 (Optional)	Various
ITAI 5160	5%	15%								
ITAI 6153									5%	
ITAI 5154			40%							
ITCS 5123				100%						
ITIS 5360						100%				
ITIS 5353							100%			
ITAI 5271					15%					
ITAI 5270					10%			20%		
ITIS 6220								100%		

(All other rows have no entries in these columns.)

Capstone (Choose one) — 3

Course Names	ITCS 5180	ITCS 5231/2	ITCS 6112	ITCS 6880/1/2/3, 6991	ITIS 5166
ITAI 6153			10%		
ITAI 5154			20%		

(All other rows have no entries in these columns.)

* Ranges represent different curriculum paths. Student can choose a curriculum path that more closely follow the MS in CS with AIRG concentration while others might choose a more divergent path.

Percentages **within the table** represent the amount of content shared.Percentages in colur

New Curriculum, M.S. in Artificial Intelligence

(Old) Curriculum, M.S. in Computer Science with Concentration in AI, Robotics, and Gaming

% of Curriculum New*	Curriculum Section	% of Section New*	Clusters	Course Names	Credits	% of Course New	ITCS 5356	ITCS 6114	ITCS 6120	ITCS 6150	ITCS 6151	ITCS 6152	ITCS 6156	ITCS 5122	ITCS 6162	ITCS 6190	ITCS 6141	ITCS 6145	ITCS 6166
							Core Courses: Computing				(Choose one)				Management Core			Networks Core	
							3				3				3			3	
			(Required)	ITAI 5153	3	55%													
			ML Core (Choose one)	ITCS 5356	3	0%	100%												
				ITCS 5154		0%													
			AI Core (Choose one)	ITCS 6150	3	0%				100%									
1%-10%	Core12 cr	24% - 29%		ITCS 5153		0%													
				ITAI 5160		60%									5%	15%			
			(Choose one)	ITAI 6153	3	55%									10%	20%			
				ITAI 5154		40%													
				ITCS 6101		0%													
			ML Cluster	ITCS 6156		0%													
				ITCS 6169		0%													
				ITCS 5150		0%													
			Robotics & Decision Making Cluster	ITCS 6151		0%													
				ITCS 6152		0%													
				ITCS 6050		0%													
				ITCS 6121		0%													
				ITCS 5123		0%													
			Human- AI Interaction Cluster	ITCS 6125		0%													
0% - 16%	Technical Courses 9 cr (Choose any three. Clusters are suggestions)	0% - 52%		ITCS 5122	9	0%								100%					
				ITIS 5360		0%													
				ITIS 5353		0%													
				ITAI 5160 (see above)															
			AI System Design Cluster	ITAI 6153 (see above)															
				ITAI 5154 (see above)															
				ITCS 6190		0%										100%			
				ITCS 6145		0%												100%	
				ITAI 5271		85%													
			AI Security Cluster	ITAI 5270		70%													
				ITIS 6220		0%													
	Electives 6 cr		Various		6														
				ITAI 6153 (see above)															
10%	Capstone 3 cr (Choose one)	100%		ITAI 5154 (see above)	3														
				ITAI 6880		100%													
				ITAI 6991		100%													
Total: 11% - 36%																			

Course Names	ITCS 5150	ITCS 5153	ITCS 5154	ITCS 5230	ITCS 5231	ITCS 5232	ITCS 5235	ITCS 5236	ITCS 6050	ITCS 6101	ITCS 6115	ITCS 6120	ITCS 6121	ITCS 6121	ITCS 6125	ITCS 6134	ITCS 6150	ITCS 6151	ITCS 6152	ITCS 6156	ITCS 6169	ITCS 6311	ITCS 6490	ITCS 6881	ITCS 6991
	Concentration Electives(Choose three)																								
													9												
ITAI 5153		20%	15%																	10%					
ITCS 5356																									
ITCS 5154			####																						
ITCS 6150																									
ITCS 5153		####																							
ITAI 5160																									
ITAI 6153																									
ITAI 5154																									
ITCS 6101										####															
ITCS 6156																				####					
ITCS 6169																					####				
ITCS 5150	####																								
ITCS 6151																		####							
ITCS 6152																			####						
ITCS 6050									####																
ITCS 6121													####												
ITCS 5123																									
ITCS 6125															####										
ITCS 5122																									
ITIS 5360																									
ITIS 5353																									
ITAI 5160 (see above)																									
ITAI 6153 (see above)																									
ITAI 5154 (see above)																									
ITCS 6190																									
ITCS 6145																									
ITAI 5271																									
ITAI 5270																									
ITIS 6220																									
Various																									
ITAI 6153 (see above)																									
ITAI 5154 (see above)																									
ITAI 6880																									
ITAI 6991																									

Course Names	ITCS 6100 (Optional)	ITCS 6160 (Optional)	ITCS 5010 (AI-Driven Dvmt, Optional)	ITCS 5123 (Optional)	ITIS 5221	ITIS 5360	ITIS 5353	ITIS 6200	ITIS 6214 (Optional)	Various	ITCS 5180	ITCS 5231	ITCS 5232	ITCS 6112	ITCS 6880	ITCS 6881	ITCS 6882	ITCS 6883	ITCS 6991	ITIS 5166
	(Choose 2)										Capstone (Choose one)									
						6										3				
ITAI 5153																				
ITCS 5356																				
ITCS 5154																				
ITCS 6150																				
ITCS 5153																				
ITAI 5160	5%	15%																		
ITAI 6153									5%					10%						
ITAI 5154			40%											20%						
ITCS 6101																				
ITCS 6156																				
ITCS 6169																				
ITCS 5150																				
ITCS 6151																				
ITCS 6152																				
ITCS 6050																				
ITCS 6121																				
ITCS 5123				100%																
ITCS 6125																				
ITCS 5122																				
ITIS 5360						100%														
ITIS 5353							100%													
ITAI 5160 (see above)																				
ITAI 6153 (see above)																				
ITAI 5154 (see above)																				
ITCS 6190																				
ITCS 6145																				
ITAI 5271					15%															
ITAI 5270					10%			20%												
ITIS 6220								100%												
Various																				
ITAI 6153 (see above)																				
ITAI 5154 (see above)																				
ITAI 6880																				
ITAI 6991																				

* Ranges represent different curriculum paths. Student can choose a curriculum path that more closely follow the MS in CS with AIRG concentration while others might choose a more divergent path.

Course Name	Description	Pre / Co-requisites	Content Shared %
ITAI 5153: Introduction to Artificial Intelligence and Ethics	This course offers a practical introduction to artificial intelligence, emphasizing AI Literacy and the ethical considerations inherent in the development and deployment of AI applications. Students will engage in hands-on (Service /Design/Development) projects using a high-level programming language and accessible open-source AI tools and APIs. They will explore key machine learning concepts, including supervised, reinforcement learning, and generative AI, while also critically analyzing ethical challenges, including explainability and trustworthiness of AI systems.	Prerequisite(s): Restriction(s): CCI graduate standing or permission of instructor	ITCS 5153 - Applied Artificial Intelligence- 20% ITCS 5154 - Applied Machine Learning- 15% ITCS 6156 - Machine Learning- 10%
ITAI 5160: Databases and Cloud for Artificial Intelligence	This course explores the intersection of data management, cloud computing, and artificial intelligence, focusing on structured and unstructured data storage, processing, and analytics in scalable cloud environments for AI applications. Topics include relational and NoSQL databases, data modeling, statistical analysis, data wrangling, and big data processing. Students will gain hands-on experience with a cloud platform to build data pipelines and automate AI workflows and develop practical skills in managing and analyzing large-scale data to support AI and machine learning applications.	Restriction(s): CCI graduate standing or permission of instructor. Prerequisite(s):	ITCS 6160 Database Design and Implementation- 15% ITCS 6190 Introduction to Cloud Computing- 15% ITCS 6162 Introduction to Data Mining- 5% ITCS 6100 Big Data Analytics for Competitive Advantage- 5%
ITAI 6153: Machine Learning Operations	This course provides a comprehensive introduction to the key components of the machine learning (ML) project lifecycle, integrating essential practices from machine learning, DevOps, and data engineering. Through hands-on learning, students will gain practical experience in deploying and maintaining ML models in production environments reliably and efficiently.	Prerequisite(s) ITCS 5356 - Machine Learning Models or ITCS 5154 Applied ML with grade of C or above	ITCS 6112 Software System Design and Implementation- 10% ITCS 6162 Data Mining- 10% ITCS 6190 Cloud Computing for Data Analysis- 20% ITIS 6214 Usable Security and Privacy- 5%
ITAI 5154: AI-Driven Trustworthy Software Development	This project-oriented course explores the integration of Artificial Intelligence (AI) with software development, covering multiple phases of the Software Development Lifecycle (SDLC), including planning, designing, coding, debugging, refactoring, testing, deployment, and management. A key focus is on how Large Language Models (LLMs) and Generative AI are reshaping development practices, especially considering trust and trustworthiness properties (encompassing security, reliability, privacy, and maintainability). Through an hands-on project, students will critically examine both the potential and risks of LLMs, such as biases and inaccuracies, in enhancing software trustworthiness. By working on a real-world (or realistic) application, students will apply AI-driven development tools, assess trustworthiness, and implement strategies to mitigate risks. This course emphasizes practical experience, enabling students to responsibly leverage LLM-based tools to build trustworthy software systems that meet industry standards.	Prerequisite(s): ITCS 5356 OR ITCS 6150 OR ITCS 5153 OR ITCS 5154	ITCS 6112 - 20% ITCS 5010 AI-Driven Development - 40%
ITIS 5271 Secure and Trustworthy Artificial Intelligence	This course explores the security, privacy, and ethical challenges in AI and machine learning systems. Designed for advanced students, it covers AI risk assessment, adversarial machine learning, and trustworthy AI deployment. Through lectures, case studies, and hands-on projects, students will learn to identify vulnerabilities, implement defenses, and design trustworthy AI systems. By the end, they will be equipped to develop and deploy AI responsibly in real-world scenarios.	Prerequisite(s): ITCS 5154 – Applied Machine Learning OR ITCS 5356 - Machine Learning Models	ITIS 5221 15%
ITIS 5270: Artificial Intelligence Risk Management	Understand risks of AI in enterprise applications and risk mitigation methods. Topics covered include: AI risk frameworks, AI governance, threat modeling and detection, risks in data pipelines, risks in integration and adoption, and risks in maintenance of AI based applications.	Prerequisite(s): ITAI 5153 Introduction to AI and Ethics	ITIS 5221 10% ITIS 6200 20%

Last Name	First Name	Rank	Department	Faculty type	Academic degrees
Ahmed	Dewan	Teaching Associate Professor	Computer Science	Not on Tenure Track	PHD (Computer Science), Univ of Ottawa
Akella	Srinivas	Professor	Computer Science	Permanent Tenure	PHD (Robotics), Carnegie Mellon Univ
Allen	Tyler	Assistant Professor	Computer Science	Tenure Track	PHD (Computer Science), Clemson Univ
Bahamon	Julio	Teaching Associate Professor	Computer Science	Not on Tenure Track	PHD (Computer Science), North Carolina State Univ
Bunescu	Constantin	Associate Professor	Computer Science	Permanent Tenure	PHD (Computer Science), Univ of Texas-Austin
Cheng	Qiong	Teaching Assistant Professor	Computer Science	Not on Tenure Track	PHD (Computer Science), Georgia State Univ
Chu	Bei-Tseng	Professor	Software & Info Systems	Permanent Tenure	PHD (Computer Science), Univ of Maryland-College Park
Das	Srijan	Assistant Professor	Computer Science	Tenure Track	PHD (Computer Science), Univ Cote dAzur
Dobbs	Bryan	Teaching Assistant Professor	Software & Info Systems	Not on Tenure Track	PHD (Computing & Info Systems), UNC Charlotte
Du	Xiuxia	Professor	Bioinformatics and Genomics	Permanent Tenure	DSC (Mathematics and Computer Sci), Washington Univ-St. Louis
Fan	Liyue	Assistant Professor	Computer Science	Tenure Track	PHD (Computer Science), Emory Univ
Ge	Yaorong	Professor	Software & Info Systems	Permanent Tenure	PHD (Computer Science), Vanderbilt Univ
Hajja	Ayman	Teaching Associate Professor	Computer Science	Not on Tenure Track	PHD (Computing & Info Systems), UNC Charlotte
Krishnan	Siddharth	Assistant Professor	Computer Science	Tenure Track	PHD (Computer Science), Virginia Tech Univ
Kuemmerle	Christian	Assistant Professor	Computer Science	Tenure Track	PHD (Mathematics), Technical Univ of Munich
Lee	Minwoo	Assistant Professor	Computer Science	Tenure Track	PHD (Computer Science), Colorado State Univ
Lipford	Heather	Professor	Software & Info Systems	Permanent Tenure	PHD (Computer Science), Georgia Institute of Technology
Lu	Aidong	Professor	Computer Science	Permanent Tenure	PHD (Computer Engineering), Purdue Univ-Main
Najjar	Nadia	Teaching Associate Professor	Software & Info Systems	Not on Tenure Track	PHD (Computing & Info Systems), UNC Charlotte
Niu	Xi	Associate Professor	Software & Info Systems	Permanent Tenure	PHD (Information Sciences & Sys), UNC Chapel Hill
Park	Albert	Assistant Professor	Software & Info Systems	Tenure Track	PHD (Health Informatics), Univ of Washington
Perez Quinones	Manuel	Professor	Software & Info Systems	Permanent Tenure	DSC (Computer Science), George Washington Univ
Powell	Laurel	Teaching Assistant Professor	Computer Science	Not on Tenure Track	PHD (Computer Science), UNC Charlotte
Ras	Zbigniew	Professor	Computer Science	Permanent Tenure	PHD (Mathematics and Computer Sci), Warsaw Univ
Saule	Erik	Associate Professor	Computer Science	Permanent Tenure	PHD (Computer Science), Grenoble Inst of Technology
Schuckers	Stephanie	Distinguished/Titled Professor	Computer Science	Permanent Tenure	PHD (Electrical and Electronics Egr), Univ of Michigan-Ann Arbor
Sridhar	Meera	Associate Professor	Software & Info Systems	Permanent Tenure	PHD (Computer Science), Univ of Texas-Dallas
Terejanu	Gabriel	Professor	Computer Science	Permanent Tenure	PHD (Computer Science), SUNY Univ at Buffalo
Vieira	Marco	Professor	Computer Science	Permanent Tenure	PHD (Computer Engineering), Univ of Coimbra
Wang	Jinzhen	Assistant Professor	Computer Science	Tenure Track	PHD (Electrical and Electronics Egr), New Jersey Institute of Technology
Wang	Pu	Associate Professor	Computer Science	Permanent Tenure	PHD (Electrical and Electronics Egr), Georgia Institute of Technology
Wang	Weichao	Professor	Software & Info Systems	Permanent Tenure	PHD (Computer Science), Purdue Univ-Main
Wei	Jinpeng	Associate Professor	Software & Info Systems	Permanent Tenure	PHD (Computer Science), Georgia Institute of Technology
Xu	Depeng	Assistant Professor	Software & Info Systems	Tenure Track	PHD (Computer Science), Univ of Arkansas-Fayetteville
Xue	Hongfei	Assistant Professor	Computer Science	Tenure Track	PHD (Computer Science), SUNY Univ at Buffalo
Yan	Yonghong	Associate Professor	Computer Science	Permanent Tenure	PHD (Computer Science), Univ of Houston
Yang	Jing	Professor	Computer Science	Permanent Tenure	PHD (Computer Science), Worcester Polytechnic Institute
Yang	Li	Assistant Professor	Computer Science	Tenure Track	PHD (Computer Engineering), Arizona State Univ-Tempe
Zadrozny	Wlodek	Professor	Computer Science	Permanent Tenure	PHD (Mathematics), Polish Academy of Sciences
Zhang	Xiang	Assistant Professor	Computer Science	Tenure Track	PHD (Computer Engineering), Univ of New South Wales