

-PROPOSAL TO OFFER A NEW DEGREE PROGRAM*

Proposals will only be accepted electronically as a Word document to the Office of the Provost when submitted to provost.deg.changes@wsu.edu

**If a new unit will be created to offer the proposed degree, a notice of intent to establish the new unit (program, department, or school) will also be required.*

This proposal will be circulated to other institutions in the state via the Interinstitutional Committee for Academic Program Planning (ICAPP). You may be asked to interact with other institutions if they have questions or concerns.

Degree Title:	Master of Science in Artificial Intelligence
Academic Program:	Computer Science
Academic Plan:	Masters
Number of Credits:	33 - Thesis and 30 – Non-Thesis Program
Department(s) or Program(s):	School of Electrical Engineering and Computer Science
College(s):	Voiland College of Engineering & Architecture
Campus(es):	Pullman, Hybrid (Face-to-Face, Videoconference)
Method of Instructional Delivery:	In-Person, Video Conferencing

Contact Name:	Ananth Kalyanaraman	Email Address:	ananth@wsu.edu
Contact Phone:	509-335-5505	*Proposed start date:	Fall 2026

****Proposed Start Date: Approval must be received from the Northwest Commission on Colleges and Universities before the program may be advertised or recruited for. Financial aid may not be available until the program has been approved by the Department of Education subsequent to NWCCU approval. Approval notification will be sent by the Office of the Provost and Executive Vice President.***

Proposal

Mission and Strategic Goals:

Provide a clear statement of the nature and purposes of the new degree in the context of WSU’s mission and strategic plan.
The mission of the Master of Science in Artificial Intelligence (MSAI) is to provide an advanced educational platform that aligns with Washington State University's mission to foster innovative and integrated academic programs. This degree will cater to students seeking to synthesize knowledge from multiple Computer Science disciplines to address complex, real-world challenges. By leveraging WSU's diverse academic resources, the MSAI program will produce graduates equipped with expertise in AI and ML skills set tailored to contemporary and future societal and business needs.

Educational Offerings*:

Describe the degree program, including the total number of credits required. Provide the four-year degree plan (undergraduate) or appropriate plan of study (graduate and professional).

****Please note that all courses for the degree must be approved before the degree will be reviewed by the Catalog Subcommittee.***

The MSAI program will require a total of 33 credits for Thesis and 30 credits for Non-Thesis category, which include core Artificial Intelligence (AI & ML) courses, elective courses from at least two different disciplines, and a culminating project or thesis. Students can choose between a Thesis Master's Degree and a Non-Thesis Master's Degree. See Appendix B for details.

Program of Study for Thesis Master's Degree

- 33 hours minimum of total credits
- 24 hours minimum of graded (A-F) coursework, which may include up to 6 hours of undergraduate 400 level graded coursework.
- 9 hours minimum of 700-level credit in the major, 2 of which must be taken in the semester of the final exam or thesis completion
- Courses taken for audit or courses graded Pass/Fail may not be used on the *Program of Study*.

Interdisciplinary nature of the program requires that of the above:

- 12 graded credits from core courses
- 6 graded credit hours need to be from Advanced Courses
- 6 credits from Electives.
- Students will typically need to take ENGR 4xx -AI for Engineers – Mandatory for students from non-computer science degree-granting disciplines.

Program of Study for Non-thesis Master's Degree

- 30 hours minimum of total credits
- 26 hours minimum of graded (A-F) coursework, which may include up to 6 hours of undergraduate 400 level graded coursework.
- 4 hours minimum of 702-level credit in the major, 2 of which must be taken in the semester of the final exam/project completion
- Courses taken for audit or courses graded Pass/Fail may not be used on the *Program of Study*.

Interdisciplinary nature of the program requires that of the above:

- 12 graded credits from core courses
- 6 graded credit hours need to be from Advanced Courses
- 6 credits from Electives.
- Students will typically need to take ENGR 4xx -AI for Engineers – Mandatory for students from non-computer science degree-granting disciplines.

Provide descriptive information regarding the method(s) of instructional delivery (percent face-to-face, hybrid, distance, and/or competency-based).

The program will be delivered through a combination of face-to-face, videoconferencing, depending on the existing graduate program coursework requirements.

Assessment of Student Learning and Student Achievement*:

****For graduate programs, please contact the Graduate School before completing this section.***

Please provide a list and description of expected student learning outcomes.

Student Learning Outcomes:

1. Demonstrate a thorough understanding of Computer Science, Software Engineering and Cybersecurity concepts and methodologies.
2. Apply interdisciplinary approaches to solve complex problems.
3. Conduct independent and original research that integrates with AI disciplines.
4. Communicate effectively in written and verbal formats across various disciplines.
5. Demonstrate practical skills.

For undergraduate programs, provide the department's plan for assessing student learning outcomes. Describe briefly how information on student learning will be collected and incorporated into existing processes for evaluating student learning in the department. Please attach the plan and a curriculum matrix.

Assessment Methods:**• Direct Measures:**

- **Course Evaluations:** Regular assessments through exams, projects, and presentations in core and elective courses.
- **Thesis/Project Evaluation:** Assessment of the thesis or non-thesis project by the student's advisory committee.
- **Oral Defense:** Evaluation of the student's ability to defend their research or project work before a committee.

• Indirect Measures:

- **Student Surveys:** Feedback on program satisfaction and perceived learning outcomes.
- **Alumni Surveys:** Long-term feedback on career outcomes and the applicability of skills learned.
- **Advisory Committee Feedback:** Regular input from faculty advisors on student progress and program effectiveness.

Data Collection and Analysis:

- **Semester Evaluations:** Collect data on student performance each semester.
- **Annual Reviews:** Conduct annual reviews of student progress and program outcomes.
- **Exit Surveys:** Administer surveys to graduating students to gather feedback on their experiences and learning.

Use of Assessment Data:

- **Program Improvement:** Use collected data to make informed decisions on curriculum changes and program enhancements.

Student Support: Identify areas where students may need additional support or resources.

Please indicate as appropriate:

- Assessment of this program will be incorporated into the existing assessment plan for __EECS Graduate Programs__. Please attach a copy of the existing plan.
- A draft assessment plan is attached.
- A curriculum matrix is attached.

Planning:

Describe plans and include descriptions which provide evidence of:

1. The need for the new degree.

The MS AI program addresses the growing demand for AI and ML expertise in both academic and professional fields. Stakeholders, including faculty, peer institutions, and students, have identified a need for such a program to explore and address complex phenomena that do not fit within traditional disciplinary boundaries. A masters in Computer Science has been in place at WSU for multiple decades, but unlike most CS programs, there is no masters in AI. The latter is needed for the students whose academic and career goals can be met with a master's degree.

2. The student population to be served.

- Provide realistic justification for the projected FTE.
- How can transfer students articulate smoothly into the program and complete it with approximately the same number of total credits as students who enter WSU as freshmen?
- Please describe specific efforts planned to recruit and retain underrepresented students in this discipline.

The program targets high-achieving students interested in combining multiple disciplines to address unique research questions. Our target students include

- Recent undergraduates in computer science, electrical engineering, applied mathematics and statistics, and other engineering/science disciplines within US and internationally. This also includes our own BS in CS/CE students through our proposed 4+1 accelerated MSAI program. They want strong AI/ML skills, possibly research experience, opportunity for internships, job placement, possibly credentials that stand out in competitive tech job market. Increasingly AI/ML tools are used in the overall workflow to accelerate productivity in almost all engineering, science, and industrial domains. Our focus on both fundamentals, real-world use-cases, and use-inspired AI solutions will provide the students with highly unique skills.
- Working professionals / mid-career switchers possibly with non-AI background (e.g. software developers, agriculture tech, robotics, engineers) wanting to shift or upskill.

Program Demand: In 2023, there were 1,643 Bachelor's degree completions in Washington from Computer Science, Applied Mathematics, Electrical & Computer Engineering, and Statistics programs; nationally, there were 54,061 Bachelor's degree completions from these programs. This represented a 38% growth in completions since 2019 for Washington, and a 35% growth at the national scale. Looking at Artificial Intelligence programs, there were 48 Master's degree completions from Artificial Intelligence programs in Washington in 2023; nationally, there were 936 Master's degree completions. While growth data for Artificial Intelligence programs isn't available for Washington, looking nationally we see there has been a 259% growth in Artificial Intelligence Master's degree program completions since 2019 - a strong sign of growing demand from students.

It is expected to attract at-least 20 students for the first academic year (with further increases expected in subsequent years), consistent with the demand observed in similar programs. There are two additional reasons for our optimism. First, AI has seen unprecedented growth over the last two years, and nobody would have predicted this including hardcore AI researchers. Most jobs outside computing will require upskilling in AI and machine learning. Second, a unique advantage WSU has is the 4+1 accelerated MSAI program for our own BS in CS/CE/SE students which can take advantage of the large BS population to quickly make them work-ready in this AI-driven economy.

We will participate in Graduate school fairs & recruitment events including NSF Graduate STEM Fairs, Grace Hopper Celebration (for Women in Computing), SACNAS (Society for Advancement of Chicanos/Hispanics and Native Americans in Science), IEEE / ACM student conferences, and WSU & regional CS/Engineering career fairs to recruit under-represented students.

3. Procedures used in arriving at the decision to offer the new degree (e.g., consultation with advisory boards, input from industry or employers, commissioned studies, faculty task force, etc.).

The decision to request the MSAI degree was driven by the existing EECS administration's recognition of a growing demand for a flexible, interdisciplinary master's program among current and prospective students. Additionally, current CS Engineering students who may decide to transition to a MS AI Program, providing a flexible alternative that more effectively supports their academic and career goals.

4. Organizational arrangements required within the institution to accommodate the new degree.

The program will be housed within the School of EECS. The program will be administered by current EECS faculty and staff and leverages existing resources and faculty expertise from participating graduate programs - these faculty and staff will be actively involved in tracking the students and guiding them toward their goals. No new organizational units or staff are required.

5. Lay out a three-year timetable for implementation, including hiring plans, partnership contracts if needed, facilities modification, recruiting, and other elements of implementation. Provide dates for each step. **If faculty need to be hired, provide a written commitment from your funding authority of the necessary faculty lines.**

Year 1 (Fall 2026):

- First cohort of students begins the program.

Years 2-4 (2026-2029):

- Continue recruitment and support for ongoing student research.
- Evaluate program effectiveness and make necessary adjustments.
- Graduate the first cohort.

Budget:

Attach the Financial Worksheet with five-year FTE, revenue and expenditure projections. Fully account for costs such as staff support, training, library, facilities and so on.

Please describe the funding picture narratively, including funding sources, department, college and/or campus commitments, investments already made, one-time costs, facilities costs (labs, classrooms, offices, telecom etc.), and library costs.

Tuition generated will be distributed to the respective departments offering the courses. Most of the courses in this program are expected to be offered by the School of EECS. For any specialized elective course that is offered or co-taught by instructors from two majors, then the tuition revenue generated from that course will be evenly split between those respective units. The Graduate School, VCEA, and EECS will require no additional funding, the program will be self-sustaining and any revenue generated will cover any potential future costs. Additional revenue will be generated and distributed per existing tuition distribution policies. For the delivery of the program VCEA will receive 78% of tuition revenue over baseline and EECS will receive a percentage of VCEA's revenue (approx. 33.13%) from VCEA based on the VCEA budget model. Tuition rates will be the WSU standard rate for graduate students of \$7,053 for residents and \$15,121 for non-residents per semester. Expected enrollment will be approximately 80% non-resident and 20% resident students. An estimated 20% of students in the program will pursue the MS Thesis option, these students are eligible for assistantships but assistantships are not guaranteed. The remaining 80% of the estimated students will be self-funded non-thesis students.

The School of EECS Director serves as the Program Director for the proposed MS AI program and will appoint a Graduate Studies Committee chair to serve as the equivalent of the graduate program chair for the program. The Program Director, will oversee the MS AI program, provides overall academic leadership and represents the program's interests to system administrators.

As with the MS CS, MS AI will be supported by an Academic Coordinator who supports all the above activities as needed. They assist the Program Director and Graduate Studies Chair with the day-to-day program management and advising MS AI applicants and students.

In sum, the program will use existing resources including personnel within the Graduate School, VCEA, and EECS with no additional financial burden on WSU.

Student Services:

Describe the capacity of student support services to accommodate the new degree. Include a description of admissions, financial aid, advising, library, tutoring, and other services specific to this request.

The Graduate School and associated departments will provide admissions, advising, financial aid, library, and tutoring services to support MSAI students across the system.

Describe the implications of the new degree for services to the rest of the student body.

There are no foreseeable negative implications for the rest of the student body.

Physical Facilities and Equipment:

Outline the provision(s) made for physical facilities and equipment at the proposed location that will support the program and its projected growth. Include videoconferencing and other technologies that support course delivery, as well as classrooms, labs, and office space.

Existing facilities at WSU, including classrooms, labs, and offices, will support the MSAI program. Videoconferencing delivery, and other technologies will be employed to enhance course delivery.

Library and Information Resources:

Using the Library Analysis form, describe the availability and adequacy of library and information resources for this degree, degree level, and location. Note plans to address gaps.

Current library resources are deemed adequate for the MSAI program.

Faculty:

- List the educational and professional qualifications of the faculty relative to their individual teaching assignments.
- List the anticipated sources or plans to secure qualified faculty and staff.

Qualifications:

- Faculty from Computer Science and related different discipline with expertise in the relevant fields.
- Most faculty will hold Ph.D. degrees and have significant research and teaching experience in both foundational AI and applied AI. Typically, they will have the status of Faculty of the Graduate School.
- The foundational AI faculty includes 5 tenured/tenure-track members at EECS: Jana Doppa (19 years of research/teaching experience in AI with expertise in predictive modeling, sequential decision-making, and real-world applications in diverse domains including hardware, materials, manufacturing, agriculture, and cybersecurity); Yan Yan (12 years of research/teaching experience in AI with expertise in computer vision, optimization for machine learning, robust ML, and uncertainty quantification, and real-world applications in robotics and agriculture); Nghia Hoang (16 years of research/teaching experience in AI with expertise in probabilistic modeling, federated learning, deep generative models, and real-world applications in bioinformatics, and health); Honghao Wei (8 years of research/teaching experience in AI with expertise in reinforcement learning, safe AI, and real-world applications in robotics and urban computing); and Xuanyu Cao (13 years of experience in AI with expertise in optimization for ML, federated learning, and control theory for real-world decision-making applications).
- The applied AI faculty members at EECS include 6 tenured/tenure-track faculty members: Ananth Kalyanaraman (20+ years of expertise in AI applications for bioinformatics, data science, high performance computing, and applied machine learning for agriculture and environment); Assefaw Gebremedhin (15+ years of expertise in AI applications for bioinformatics, health, spatial data analytics, and cybersecurity); Monowar Hasan (8+ years of expertise in AI applications for cybersecurity and cyber-physical systems); Anamika Dubey (10+ years of research experience in AI for smart grid analytics); Ganapati Bhat (10+ years of research experience in AI for wearable devices design and energy management for sustainable health monitoring applications); and Partha Pande (20+ years of experience on AI to design high-performance and energy-efficient hardware accelerators for AI and graph analytics);
- The program will be additionally supported by 4 career-track faculty at EECS who have varying levels of experience in designing and offering AI and machine learning curricula: Parteek Kumar (several years of hands-on teaching experience in Generative AI with demonstrated successes for a broad range of students and audience); Jeremy Thompson (designer of Agentic AI course), Ishaani Priyadarshini (data science and applied machine learning with a security and privacy emphasis, AI for social good), and Ananth Jillepalli (expert in computer security and design of AI and CS curricula).

Recruitment:

The program will use existing faculty.

Impact on Other Locations/Programs:

Briefly describe any impacts on other WSU programs and locations, and how you came to these conclusions (who was consulted?). If there are potential adverse impacts, describe how these will be addressed. Consider such things as: reallocation of faculty time, reallocation of AOI courses, impact of blended courses, internal competition, “cannibalization” of other programs, curricular effects for other degrees, effects on recruitment markets for other campuses. Indicate how such problems will be addressed for each campus or department affected.

The MSAI program is expected to complement existing programs by fostering interdisciplinary collaboration and research. Potential impacts on faculty time and resources will be managed through careful planning and coordination. The MSAI program will be available systemwide for any faculty group willing to mentor a student with shared interests.

Sustainability:

What are the plans for continuing the program past 5 years if the goals for enrollment are not met, or other circumstances prevent the execution of the plan described here?

If enrollment goals are unmet within five years, the program will undergo a strategic review. Potential adjustments may include program restructuring or the introduction of certificate programs to maintain viability. Given the sustained interest in the School of EECS, the master's program is expected to remain viable in the long term.

External Reviewer Contact Information:

If this program is new to the Washington State University system, please provide the names and contact information for 2-3 external experts from similar institutions *who could* be contacted to provide reviews of this program.

Name	Contact Information (email and phone)
Dr. Alan Fern, Professor of Computer Science, Oregon State University School of EECS	Email: alan.fern@oregonstate.edu , Phone: 541-737-9202
Dr. Vikram Adve, Professor, UIUC Computer Science, and Director of AIFARMS	Email: vadve@illinois.edu Phone: 217-244-2016
Dr. Dan Roth, Distinguished Professor of Computer Science at University of Penn	Email: danroth@seas.upenn.edu Phone: 217-721-4004

Classification of Instructional Programs (CIP) Code:

Please identify the most appropriate CIP code for this program. You can refer to the CIP taxonomy at <https://nces.ed.gov/ipeds/cipcode/>. Briefly explain why this code was selected.

CODE: 11.0102
Title: Artificial Intelligence

Attachments:

- Financial Worksheet
- Demand Analysis
- Library Analysis
- Four-Year Degree Plan (undergraduate); curriculum overview (graduate and professional)
- Curriculum Map (undergraduate)
- Assessment Plan
- Letters of financial commitment
- Contracts or MOUs if applicable

SIGNATURES: The names typed below certify that the relevant academic and campus officials have reviewed and approved this proposal:

Chair or Director Signature:		Date:	09/24/2025
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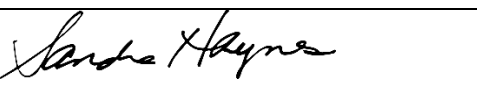
Dean Signature:		Date:	9/24/2025
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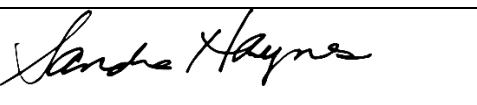
Signatures are required from all Chancellors (or delegates). A signature denotes endorsement if the degree will be offered and/or impact the respective campus. A signature will also denote receipt of notification if the degree is not being offered and/or will impact the respective campus. If needed, a signature abstention box is provided immediately below.

Everett Chancellor Signature:		Date:	9/25/25
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Global Chancellor Signature:		Date:	09/25/2025
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Spokane Chancellor Signature:		Date:	
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Tri-Cities Chancellor Signature:		Date:	09/29/2025
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Vancouver Chancellor Signature:		Date:	09/29/2025
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Comments regarding abstention of signature(s)

Submit completed form as a Word document to the Provost's Office at provost.deg.changes@wsu.edu

Provost's Office Signature:		Date:	
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For Registrar's Office Use Only:			
Confirmed CIP Code:		Approval Date:	