



## ARTIFICIAL INTELLIGENCE, M.S.

Saint Louis University's master's program in artificial intelligence prepares students to apply artificial intelligence methods, both efficiently and ethically, in order to solve difficult problems and impact the well-being of society. This graduate program provides students with depth of knowledge regarding the models and technologies used to make advances in underlying artificial intelligence and machine learning and, through a partnership with faculty across the university students may choose to apply these techniques in specialized areas of application such as autonomous systems, bioinformatics, data science, health outcomes, image processing, and natural language processing. Students will engage in both the theory of AI/ML and in applying AI/ML in practice, including a culminating team-based capstone project. Students will also consider important questions regarding the impact of AI on society, implicit bias that may result from AI systems, and the ethical development and deployment of technologies.

### Careers

Careers in computer science are regularly found on "best jobs" lists. They can be highly rewarding, and provide great compensation and excellent work environments. The ubiquity of Artificial Intelligence systems in today's world makes advance training in AI an extremely marketable skill when applying for positions as software developers, systems engineers, or data scientists.

### Admission Requirements

- A bachelor's degree with a science, technology, engineering or math major (STEM)
- Most successful applicants have an undergraduate grade point average of 3.0 or better.
- Evidence of strong computational skills, generally through prior coursework in calculus, statistics, programming or data structures

### Application Requirements

- Application form and fee
- Transcript(s)
- GRE general test scores, recommended
- 1 recommendation using an online evaluation form; 2 more recommendations are optional
- Résumé
- Statement of professional goals

### Requirements for International Students

All admission policies and requirements for domestic students apply to international students along with the following:

- Demonstrate English language proficiency. Some examples of demonstrated English language proficiency include minimum score requirements for the following standardized tests:
  - Paper-based TOEFL: 550
  - Internet-based TOEFL: 80
  - IELTS: 6.5
  - PTE: 54
- Academic records, in English translation, of students who have undertaken postsecondary studies outside the United States must include the courses taken and/or lectures attended, practical laboratory work, the maximum and minimum grades attainable, the grades earned or the results of all end-of-term examinations, and any honors or degrees received. WES and ECE transcripts are accepted.
- Proof of financial support, which must include:
  - A letter of financial support from the person(s) or sponsoring agency funding the time at Saint Louis University
  - A letter from the sponsor's bank verifying that the funds are available and will be for the duration of study at the University

### Application and Assistantship Deadlines

The application deadline for international students for Fall 2020 enrollment is May 15, 2019. For priority consideration for graduate assistantship or scholarships, applicants should complete their applications by February 1, 2020.

### Review Process

Application decisions are made per guidelines and a review process established by the department, school or college.

### Scholarships and Financial Aid

For or priority consideration for graduate assistantships, applicants should complete their applications by February 1.

For more information, visit the Office of Student Financial Services online at <http://www.slu.edu/financial-aid>.

### Learning Objectives

Graduates will be able to:

1. Select the most appropriate choice among artificial intelligence methods for solving a given problem.
2. Design an experiment to evaluate the quality of a machine learning model and predict its accuracy in a solution environment.
3. Apply techniques from artificial intelligence to solve complex problems in an application domain.
4. Design and implement a software solution that meets a given set of computing requirements.
5. Make informed and ethical judgments regarding the impact of artificial intelligence technologies.
6. Assess relevant literature and technical documents in the fields of artificial intelligence and machine learning.
7. Effectively communicate methods and results to both professional and general audiences in both oral and written forms.

### Curriculum Overview

Graduate-level artificial intelligence courses are taught in labs or small lectures, providing extensive one-on-one interaction with faculty, including opportunities for collaborative research.

## Requirements

The preliminary program design includes 30 credit hours which allows for students to specialize in areas of application, if they choose. Please consult an admissions advisor for more information about this new program offered by the Department of Computer Science in collaboration with faculties across Saint Louis University.

	<b>Title</b>	<b>Credits</b>
CSCI 5030:	Principles of Software Development	3
CSCI 5050:	Computing and Society	3
CSCI 5760:	Principles of Artificial Intelligence	3
CSCI 5750:	Principles of Machine Learning	3
CSCI 5961:	Artificial Intelligence Capstone Project	3-6
	Applications of Artificial Intelligence	3-6
	Advanced Techniques in Artificial Intelligence	3-6
	Additional Electives	6
	<b>Total credits</b>	<b>30</b>

### Applications of Artificial Intelligence

In consultation with their advisor, students choose one or more courses among courses that allow them to devote learning to the application of AI techniques to solve problems in a particular domain (e.g., autonomous systems, image processing, bioinformatics)

### Advanced Techniques of Artificial Intelligence

Students choose one or more courses that extend the core knowledge to deepen expertise in core AI techniques and/or their mathematical underpinnings. Examples of courses in this category would be more advanced techniques, deep learning, data mining, as well as advanced statistical courses such as applied regression or Bayesian statistics.

### Additional Electives

Student complete two additional elective courses from among the previous categories or selected from a variety of disciplines that are not specifically AI, but which support student's knowledge base and goals in relevant ways.

### Collaborating Colleges, Schools and Departments

- Department of Computer Science
- Parks College of Engineering, Aviation and Technology
- School of Medicine
- Center for Health Outcomes Research
- Geospatial Institute
- Department of Mathematics and Statistics
- Interdisciplinary Program in Bioinformatics and Computational Biology

## CONTACT INFORMATION

Learn more and apply for admission at [slu.edu/globalgrad](https://slu.edu/globalgrad).

Contact us at [globalgrad@slu.edu](mailto:globalgrad@slu.edu) with any questions.