Applied Artificial Intelligence for Science, M.S.

David Kirkby, Faculty Director
http://ai4sci.ps.uci.edu/

The Master of Applied Artificial Intelligence for Science is a professional graduate program that aims to equip students with industry-relevant skills in machine learning (ML) and artificial intelligence (AI), specifically tailored for students with a science background.

Over a three-quarter program, students build on their undergraduate scientific knowledge through a curriculum encompassing traditional machine-learning topics as well as application-based AI approaches relevant to industry. The program is tailored to meet the needs of both students and companies, offering a comprehensive pathway to gain ML and AI expertise alongside existing domain knowledge. It features high-quality instruction and multiple projects, including a capstone project, centered on team collaboration and industry-relevant data sets and challenges.

The program consists of 40 total units, including six 4-unit core and special topic lecture courses, three 4-unit project courses, and two 2-unit seminars. A distinguishing feature is the project courses, one offered every quarter, providing opportunities for students to work individually and in teams manipulating scientific data sets and completing a final capstone project. The program also emphasizes professional development and ethics in data science, ensuring graduates are well-prepared for careers in industry.

Potential Master of Applied Artificial Intelligence for Science graduate students can apply via Graduate Division's online application. Applicants are expected to hold a bachelor's degree in a science, mathematics, or engineering discipline. Students from other disciplines may be considered for admission if they have sufficient background in the basics of their target specialization. An extensive programming background is not required; however, applicants must demonstrate a strong foundation in mathematics, including at least one year of calculus, and maintain a minimum overall undergraduate GPA of 3.0.

Applicants must submit three letters of recommendation, a CV, a statement of purpose, and transcripts. Additionally, students who do not have English as a primary language of instruction at their undergraduate or graduate institution must demonstrate English proficiency and are required to take and pass an approved English proficiency test (TOEFL or IELTS).

Applicants are evaluated using a holistic admissions approach where multiple factors are taken into consideration and no single factor precludes admission. The admissions process considers applicants' experiences, attributes, academic metrics, ability to work in a team environment, and the likelihood of success in the program. An admissions committee composed of Senate faculty members will evaluate the applicants files and make admissions decisions based on the overall file presented by the student.

Required coursework includes six core 4-unit courses, three 4-unit project courses, and two 2-unit courses.

A. Complete:	
AI SCI 210	Introduction to Python Programming and Artificial Intelligence
AI SCI 220	Methods in Machine Learning and Artificial Intelligence
AI SCI 230	Software Engineering and Data Visualization for Artificial Intelligence
AI SCI 240	Neural Networks and Deep Learning
AI SCI 285	Special Topics in Machine Learning and Artificial Intelligence
AI SCI 286	Research Topics in Machine Learning and Artificial Intelligence
B. Complete:	
AI SCI 290A	Project Course A
AI SCI 290B	Project Course B
AI SCI 290C	Project Course C: Artificial Intelligence for Science Capstone
C. Complete:	
AI SCI 294	Ethics in Data Science
AI SCI 295	Professional Development

First Year		
Fall	**Winter**	**Spring**
AI SCI 210	AI SCI 230	AI SCI 285
AI SCI 220	AI SCI 240	AI SCI 286
AI SCI 290A	AI SCI 290B	AI SCI 290C
	AI SCI 294	AI SCI 295