ARTIFICIAL INTELLIGENCE MINOR

Overview

The Artificial Intelligence Minor is designed to equip students with foundational knowledge in artificial intelligence and machine learning principles. The coursework is structured to provide students with the essential knowledge and core skills needed to apply AI and machine learning techniques to address a wide range of practical problems. Students completing the minor will gain a comprehensive understanding of AI and machine learning principles, methodologies and algorithms, equipping them with the ability to create AI-driven solutions for real-world challenges. This minor is ideal for undergraduates with strong quantitative backgrounds who are eager to learn and apply the fundamentals of AI and machine learning.

The Artificial Intelligence minor is available to majors in all disciplines. Students majoring in one of the computing disciplines, specifically, computer science, computer engineering, software engineering and data science, will find that their primary coursework matches well with the prerequisites and courses required for the minor.

Students (from any major) who want to learn how to use low-code or no-code AI tools effectively and ethically may be interested in the Applied Artificial Intelligence Minor (http://catalog.iastate.edu/collegeofliberalartsandsciences/appliedai/).

Undergraduate Minor

The Artificial Intelligence Undergraduate Minor is a 15 credit minor. Please note these courses require significant prerequisite coursework.

Artificial Intelligence Core Courses

PHIL 3430	Philosophy of Technology	3
COMS 4720	Principles of Artificial Intelligence	3
COMS 4740	Introduction to Machine Learning	3
AI-related Course Electives		6
COMS 4350	Algorithms for Large Data Sets: Theory and Practice	
COMS 4760	Motion Planning for Robotics and Autonomous Systems	
COMS 4770	Foundations of Robotics and Computer Vision	
CPRE 4190	Software Tools for Large Scale Data Analysis	
EE 4240	Introduction to Digital Signal Processing	
EE 4250	Machine learning: A Signal Processing Perspective	
ME 4250	Optimization Methods for Complex Designs	
ME 4560	Machine Vision	
ME 4750	Modeling and Simulation	
STAT 4219	Bayesian Data Analysis	
Total Credits		**15**

The Artificial Intelligence Undergraduate Minor is an LAS Minor. In addition to University policies governing minors (http://catalog.iastate.edu/academics/#degreeplanningtext), LAS minors require at least 6 credits in courses numbered 3000 and above, with a grade of C or higher.