

CERTIFICATE IN ARTIFICIAL INTELLIGENCE

Certificate Description

This certificate program features cutting-edge courses designed to equip students with essential skills and knowledge in Artificial Intelligence (AI). It builds a solid foundation in programming for machine learning, develops expertise to build and deploy end-to-end AI models, cultivates analytical skills to implement and enhance AI solutions in real-world applications, and delivers up-to-date knowledge and practical skills to help students excel in AI-related careers.

The curriculum of this program consists of four courses, totaling 12 semester credit hours. Two required core courses establish a foundation in programming, data science, and machine learning. Two additional courses can be elected from an approved list of advanced topics in AI, which may include deep learning, large-scale AI models, computer vision, and cloud computing.

Certificate Director

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Academic Advisor

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Applicants for this graduate certificate must meet the requirements for admission to Graduate Studies at YSU.

COURSE	TITLE	S.H.
CSCI 6901	Principles of Computer Programming	3
or CSCI 6902	Concepts of Computer Programming	
CSCI 6951	Data Science and Machine Learning	3
Electives (see list below)		6
Total Semester Hours		12

Electives

Select two of the following electives. 5800-level classes must be completed as a graduate student.

COURSE	TITLE	S.H.
CSCI 5835	Artificial Intelligence	3
CSCI 5895	Special Topics (related to AI; with approval of program coordinator or chair)	3
CSCI 6955	Transformers: Large Language and Vision Models	3
CSCI 6970	Biometrics	3
CSCI 6971	Cloud Computing and Big Data	3
CSIS 5825	Natural Language Processing	3
CSIS 5837	Artificial Intelligence in Game Design	3
CSCI 6952	Deep Learning	3

Students who complete this program shall be able to:

- Demonstrate a comprehensive understanding of the AI landscape.
- Apply fundamental AI and machine learning concepts to analyze data and develop effective solutions to real-world problems across multiple domains.

- Create, test, deploy, and optimize AI-driven systems that support technology innovation, process improvement, and decision-making in various fields.
- Pursue further education and career development in AI.

Professor

Abdu Arslanyilmaz, Ph.D., Professor, Director

Alina Lazar, Ph.D., Professor

Feng Yu, Ph.D., Professor