

# ARTIFICIAL INTELLIGENCE

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| <b>Graduate Program Head</b> | Raghu Sangwan                                                                                                                                          |
| <b>Program Code</b>          | AI                                                                                                                                                     |
| <b>Campus(es)</b>            | Great Valley (M.A.I.)<br>World Campus (M.A.I.)                                                                                                         |
| <b>Degrees Conferred</b>     | Master of Artificial Intelligence (M.A.I.)                                                                                                             |
| <b>The Graduate Faculty</b>  | View ( <a href="https://secure.gradsch.psu.edu/gpms/?searchType=fac&amp;prog=AI">https://secure.gradsch.psu.edu/gpms/?searchType=fac&amp;prog=AI</a> ) |

The Penn State Great Valley School of Graduate and Professional Studies offers three distinct degrees in the field of Artificial Intelligence.

## Master of Artificial Intelligence (M.A.I.)

The Master of Artificial Intelligence (M.A.I.) is a 30-credit, interdisciplinary graduate program designed to prepare students to lead the design, development, and deployment of Artificial Intelligence (AI) and Machine Learning (ML) products and services across diverse domains.

The M.A.I. is structured around a Base Program and two specialization options—AI Engineering and Applied & Generative AI—offering flexibility to match students' professional goals and technical backgrounds.

- The Base Program serves as a generalist pathway providing broad training across foundational AI concepts, data analytics, and ethical and responsible AI practices. This pathway is ideal for students seeking a comprehensive understanding of AI principles and applications across multiple industries.
- The AI Engineering Option is a systems-oriented track designed for students with programming experience who aspire to design, implement, and deploy AI and ML systems. This option emphasizes technical rigor, focusing on deep learning, natural language processing, predictive analytics, computer vision, and scalable AI system design to prepare graduates for technical and engineering-focused AI roles.
- The Applied & Generative AI Option is intended for professionals who wish to harness AI technologies to drive innovation, improve decision-making, and lead digital transformation within their organizations. Emphasizing the use of low-code/no-code tools and generative AI platforms, this option develops professionals who can strategically implement AI solutions and bridge the gap between technical AI capabilities and organizational needs to leverage AI for digital transformation, achieving operational efficiencies, and strategic growth through innovation.

The Master of Artificial Intelligence degree is offered both in residence at Penn State Great Valley and online through Penn State World Campus, providing flexible access for working professionals and students nationwide.

## Master of Science (M.S.)

The Master of Science in Artificial Intelligence is a comprehensive 30-credit program designed to equip students with advanced knowledge and research skills in AI. This program emphasizes both theoretical foundations and practical applications, ensuring a well-rounded educational experience. The curriculum includes cutting-edge topics such as machine learning, deep learning, natural language processing, computer vision, reinforcement learning. It focuses on research

methodology and analytical skills, preparing graduates for successful careers in academia, industry research labs, and advanced technical roles. A key component of the program is a culminating thesis, which allows students to demonstrate their ability to conduct research, engage in scholarly analysis, and effectively communicate their research findings.

## Master of Business Administration (M.B.A.)

The MBA in Artificial Intelligence (MBAi) degree is a 30-credit interdisciplinary master's program that aims to prepare students for careers in the rapidly advancing field of artificial intelligence. The degree combines the principles of business management, finance, marketing with the advanced study of the field of artificial intelligence in machine learning, computer vision, computational linguistics, data analytics and AI ethics. This degree is designed to equip students with leadership, managerial and financial expertise, and the technical proficiency needed to manage, lead and innovate in the rapidly evolving field of AI. Students will also gain soft skills necessary for professional success through experiential learning and active participation in real-world projects and team collaboration. After completing the program, graduates will be prepared to engage in the middle and upper management and innovation of AI-based products, services and programs. They will be positioned to gain a competitive edge in the job market, as they possess the knowledge to leverage AI for strategic decision-making, operational efficiency and ethical and socially responsible AI.