

HEALTH ARTIFICIAL INTELLIGENCE (MS)

Contacts

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Program Website (<https://www.jefferson.edu/academics/colleges-schools-institutes/population-health/degrees-programs/ms-health-artificial-intelligence.html>)

Program Description

The rapid integration of artificial intelligence (AI) into healthcare creates an urgent demand for professionals who can bridge technical expertise with health domain knowledge. Earn your MS in Health AI at Thomas Jefferson University - where data science meets real clinical practice across one of the nation's most integrated urban health ecosystems.

Healthcare is being rebuilt by AI.

From clinical decision support to hospital operations, artificial intelligence (AI) is transforming how care is delivered, measured, and improved. Yet most organizations lack professionals who understand both healthcare complexity and advanced AI.

This program was built to close that gap.

At Thomas Jefferson University, you won't just learn algorithms - you'll learn how to deploy AI in real clinical environments, responsibly and effectively. The Master of Science in Health Artificial Intelligence (AI) will position Jefferson graduates to responsibly implement and evaluate AI solutions that improve health outcomes and advance health system innovation.

This 33-credit asynchronous-online program has been developed for working professionals and traditional students.

In this program, you will:

- Build predictive models for hospital readmissions and patient risk
- Develop AI tools for clinical decision support
- Apply NLP to REAL electronic health records and clinical notes
- Design AI solutions for workflow optimization and care delivery
- Evaluate models through the lens of ethics, bias, and regulation

Capstone Experience

Work directly with healthcare partners in the Philadelphia region to solve a real, high-impact problem.

The Jefferson Advantage

A Living Health AI Lab

Thomas Jefferson University sits at the center of a uniquely dense healthcare ecosystem, including:

- Jefferson Health
- Children's Hospital of Philadelphia
- Penn Medicine

This means:

- Exposure to real clinical workflows, not simulations
- Opportunities for applied research and partnerships
- Access to one of the most diverse patient populations in the U.S.
- A front-row seat to AI implementation at scale

Program Options

Our AI for Healthcare program has two degree options: a master's degree and an advanced practice certificate. All coursework is 100% online and uses an accelerated term format specifically designed for working professionals. This enables learners to focus on building one set of skills at a time, but still graduate at the same pace as traditional graduate degree programs.

Learning Goals/Program Outcomes

- Critically evaluate the machine learning algorithms that power Artificial Intelligence (AI) systems
- Integrate Artificial Intelligence (AI) into a health organization's decision-making process
- Leverage big-data assets available through electronic medical records and claims data for building Artificial Intelligence (AI) systems
- Master programming languages (e.g., Python, R, etc.) that underpin AI and Machine Learning
- Communicate key data insights and system designs to stakeholders

Curriculum:

Master's Degree

The MS in Health Artificial Intelligence (AI) requires 33 credits.

Code	Title	Credits
AHE 502	Statistics I	3
POP 500	Essentials of PopulationHealth	3
HDS 500	Fundamentals of Data Wrangling	3
HAI 501 - Health Informatics, Analytics, and AI		3
HDS 518	Sup & Unsup Learn: Pred & Clas	3
HAI 527 - Analytics & AI Leadership OR HDS 519 Deep Learning and AI Systems		3
HAI 510 - Generative AI in Healthcare		

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Code	Title	Credits
HAI 520 - 10x Your Productivity with AI		
HAI 511 - AI Ethics and Responsibility		3
HAI 512 - Databases and Data Quality		3
HAI 650 - Capstone		3