

# ARTIFICIAL INTELLIGENCE IN MEDICINE, M.S.

The Master of Science in Artificial Intelligence in Medicine (M.S.-A.I.M.) is a 30-credit graduate program offered fully online or fully in person, designed specifically for clinicians, healthcare providers, and working professionals who want to understand, evaluate, and responsibly apply AI in clinical practice. Built intentionally for learners without a computer science or advanced mathematics background, the Saint Louis University program focuses on the application of AI in medicine rather than coding or building algorithms.

Rooted in the SLU School of Medicine, the program is uniquely positioned to train healthcare professionals in a way that is directly aligned with real-world clinical environments. Medical education provides the clinical context, patient-centered framework, and interdisciplinary expertise necessary to understand where AI can meaningfully improve diagnostics, imaging, therapeutics, workflow efficiency, and population health. AI in health care is not just a technological innovation – it is a clinical tool that requires nuanced understanding of disease processes, patient care pathways, safety standards, and ethical considerations that only a school of medicine can fully provide.

## Curriculum Overview

The curriculum focuses on interpreting AI outputs, evaluating risks and benefits, integrating tools into clinical workflows, and ensuring that AI solutions support equitable, high-quality care. Students apply their learning through clinically grounded case studies and capstone projects tied to real health care challenges. The School of Medicine's faculty expertise, access to clinical datasets, and established research and clinical partnerships create an ideal environment for training the next generation of clinicians who will lead AI adoption in hospitals, clinics and health systems.

Graduates will be prepared to guide responsible AI use in healthcare settings and to participate in multidisciplinary teams shaping the future of medical practice. Grounded in SLU's Jesuit mission, the program emphasizes ethical leadership, social responsibility, and improving patient outcomes, making the School of Medicine the appropriate and essential home for the M.S.-A.I.M. program.

## Admission Requirements

- Complete Application form
- Transcripts from most recent degree(s)
- Résumé or curriculum vitae
- GRE not Required

## Scholarships and Financial Aid

For more information about Saint Louis University scholarships and financial aid, please visit the Office of Student Financial Services (<https://www.slu.edu/financial-aid/types-of-aid/>).

## Accreditation

The Saint Louis University School of Medicine is fully accredited by the Liaison Committee on Medical Education (LCME), the accrediting body for medical education in the United States. You may verify the status by contacting the LCME secretariats at [lcme@aamc.org](mailto:lcme@aamc.org) or reviewing the

current status at [lcme.org/directory/accredited-u-s-programs/](https://lcme.org/directory/accredited-u-s-programs/) (<https://lcme.org/directory/accredited-u-s-programs/>).

## Learning Outcomes

1. Apply foundational and advanced AI methods including machine learning, natural language processing, and computer vision to analyze clinical, imaging and population health data.
2. Critically evaluate the ethical, regulatory, and societal implications of AI use in medicine to promote transparency, fairness and patient-centered outcomes.
3. Develop and communicate technical and clinical findings effectively through scientific manuscripts, presentations, and grant proposals for interdisciplinary audiences.
4. Identify and mitigate algorithmic bias and inequity by designing AI solutions that enhance inclusivity, accessibility and justice in health care delivery and research.
5. Integrate AI techniques with clinical reasoning and decision-support systems to improve diagnosis, prognosis, and treatment optimization in real-world health care settings.

## Requirements

Code	Title	Credits
AI 5000	Introduction to Artificial Intelligence and Machine Learning	3
AI 5200	Data for AI and ML	3
AI 5300	Image Analysis	3
AI 5400	Large Language Models	3
AIM 5430	Reinforcement Learning for Clinical Decision Making	3
AIM 5530	Telehealth & Telemedicine	3
AIM 5630	AI for Precision Medicine, Genomics & Diagnostics	3
HDS 5430	Image Processing and Deep Learning Diagnostics	3
HDS 5530	Natural Language Processing in Medicine	3
AIM 5960 or AIM 5910	Capstone Experience Graduate Internship	3
<b>Total Credits</b>		<b>30</b>

## Additional Academic Requirements

Saint Louis University has graduation requirements for all degree-seeking students. Students are responsible for understanding these Graduation Requirements (<https://catalog.slu.edu/academic-policies/academic-policies-procedures/graduation-requirements/>).

## Academic Standing

Saint Louis University has undergraduate and graduate standards regarding a student's Academic Standing. Students are responsible for understanding the Academic Standing policy (<https://catalog.slu.edu/academic-policies/academic-policies-procedures/academic-standing-undergraduate/>).

## Roadmap

This roadmap is just one example of a semester-by-semester plan of study for this program. There are other plans students can and do take. The plan of study for each particular student is established in consultation with each student's academic advisor; *this roadmap does not replace academic advising appointments.*

### Roadmap notes:

- This Roadmap assumes full-time enrollment unless otherwise noted.
- Courses/Milestones marked with an "!" are critical and must be completed in the semester listed in the Roadmap to ensure a timely graduation.
- Course availability and sequencing are subject to change.

Course	Title	Credits
<b>Year One</b>		
<b>Fall</b>		
AI 5000	Introduction to Artificial Intelligence and Machine Learning	3
AIM 5630	AI for Precision Medicine, Genomics & Diagnostics	3
<b>Credits</b>		<b>6</b>
<b>Spring</b>		
AI 5200	Data for AI and ML	3
AIM 5430	Reinforcement Learning for Clinical Decision Making	3
<b>Credits</b>		<b>6</b>
<b>Year Two</b>		
<b>Fall</b>		
AI 5300	Image Analysis	3
HDS 5430	Image Processing and Deep Learning Diagnostics	3
AIM 5530	Telehealth & Telemedicine	3
<b>Credits</b>		<b>9</b>
<b>Spring</b>		
AI 5400	Large Language Models	3
HDS 5530	Natural Language Processing in Medicine	3
AIM 5960	Capstone Experience	3
<b>Credits</b>		<b>9</b>
<b>Total Credits</b>		<b>30</b>

## Contact Us

For more information about this program, please call 314-977-8062 or email [somanalytics@health.slu.edu](mailto:somanalytics@health.slu.edu) ([somanalytics@slu.edu](mailto:somanalytics@slu.edu)).