

Data Science Transdisciplinary Area of Excellence Mini-Symposium: Data Science and AI for STEM

Friday, May 9th 2025

11:30 AM–4:30 PM

AA 340 and Zoom (<https://binghamton.zoom.us/j/93189113605>)

Data science and artificial intelligence (AI), including machine learning (ML), have demonstrated remarkable capabilities in a wide variety of applications. These have included text summarization, generating images and videos from text prompts, question answering, image classification, and computer coding, to name just a few. The potential of AI in STEM has been less well-explored, but the potential for transformation in this domain is just as great. Come and hear our faculty discuss how they are investigating both how AI can be used for science, and how they are investigating the science of AI. Lunch will be provided 11:30 AM. The talks will start at 12:30 PM. For more information, contact Kenneth Chiu: kchiu@binghamton.edu.

Schedule

(Subject to updates: For the latest schedule and abstracts: <https://www.cs.binghamton.edu/~kchiu/AI4STEM.html>.)

11:30–12:30 Lunch
12:30–12:40 Opening Remarks

Session 1

12:40–1:10 *Advances in computational cognition: Toward more 'human-like' machine learning* – Kenneth Kurtz
1:10–1:40 *Charting ideas in motion through science, patents, and law* – Sadamori Kojaku
1:40–2:10 *Solving ordinary differential equations using AI (or not)* – Minghao Rostami
2:10–2:30 Break

Session 2

2:30–3:00 *Challenges for machine learning in condensed matter physics* – Michael Lawler
3:00–3:30 *Cargo recognition mechanism of the dynein adapter BicD2* – Sozanne Solmaz
3:30–4:00 *Data-Driven Discoveries from Large-scale and Complex Data* – Minjie Wang
4:00–4:10 Break

Panel Discussion

4:10–4:40 Panel Discussion: *Problems, Challenges, and Opportunities for AI and Science*
4:40 Close

This event is part of the 2024-2025 Data Science TAE's Thematic Program under the official title: Data Science and Artificial Intelligence for Scientific Discoveries.