Caeden Kidd

(248) 613-9213 · cmkidd@mtu.edu · linkedin.com/in/caeden-kidd · caedenkidd.com · github.com/Caeden01

EDUCATION

Michigan Technological University, *B.S. Computer Science, Math Minor · Senior* *Aug 2024 – Dec 2026*

GPA: 3.80 · Dean's List · Coursework: Data Structures, Algorithms, Computer Organization, Database Systems, Data Mining, Systems Programming, Formal Models of Computation, Probability, Linear Algebra, PDEs, Concurrent Computing, Programming Languages

TECHNICAL SKILLS

Languages: Python, C, C++, Java, JavaScript, Rust, C#, PHP, SQL, HTML/CSS
ML Frameworks: PyTorch, CUDA, scikit-learn, OpenCV
ML / AI: CNNs, image segmentation (UNet), object detection (YOLOv5), domain adaptation (CycleGAN), InceptionV4, agentic LLM systems, tree-of-thought reasoning, DFS-based reasoning agents, RAG pipelines
Medical Imaging: ICA analysis, stenosis localization, medical image segmentation, dataset curation and benchmarking
Tools: Git, Linux, React, Node.js, MySQL, SolidWorks, Blender, 3D Printing
Spoken Languages: English (native), Mandarin Chinese (basic conversational), Spanish (intermediate)

EXPERIENCE

Undergraduate ML Researcher, *Dr. Weihua Zhou's Lab, Michigan Technological University* *Nov 2024 – Present*

- Developing deep learning models in PyTorch for automated analysis of invasive coronary angiograms to give cardiologists more reliable, quantitative tools for CAD diagnosis.
- Surveying and benchmarking recent segmentation architectures from the medical imaging literature on clinical angiogram datasets; received the URIP Research Scholarship (Sep 2025 – Apr 2026) from Michigan Tech to fund the work.

Learning Center Coach, Computer Science, *Michigan Technological University* *Jan 2026 – Apr 2026*

- Tutored undergraduates in data structures, algorithms, and systems programming through one-on-one and small-group sessions; helped students work through debugging and problem-solving strategies.

PROJECTS

The Hard Conversation Gym, *Generator Build-a-thon, Babson College (vs. Harvard, MIT, and 30+ schools) Apr 2026*

- Built a clinical communication trainer where medical students, nurses, and social workers practice delivering difficult news (terminal diagnosis, death notification, treatment failure) to a live LLM-driven virtual patient, targeting the finding that over 75% of medical students report feeling unprepared for these conversations.
- Paired a CNN for real-time facial expression analysis with the dialogue so feedback covers delivery and empathy, not just word choice. Educators can write custom scenarios to capture nuance a generic LLM prompt cannot.

Polymarket Insider Trading Detector, *JacHacks 2026, 2nd Place of 60+ Teams* *Apr 4–5, 2026*

- Built an agentic LLM system that investigates suspicious Polymarket trades using tree-of-thought reasoning. The agent runs DFS across investigative angles (on-chain wallet history, trade timing, correlated positions), prunes dead ends, and outputs a written, evidence-based verdict rather than a score.
- Pulled live data from the Polymarket API and on-chain blockchain records; correlated wallet activity with position timing to identify trades opened shortly before market-moving information became public.

Better Call Cell – Leukemia Diagnosis AI, *HOSA Medical Innovation: 3rd in Michigan, 12th internationally of ∼5,000 teams* *2023*

- Built a 4-stage pipeline to screen for acute lymphocytic leukemia from blood smears: YOLOv5 crops individual white blood cells, UNet segments and removes background, CycleGAN performs unpaired domain adaptation between a custom 0.5 mm ball-lens microscope (∼400x) and high-end microscopes, and InceptionV4 classifies each cell as malignant or benign.
- CycleGAN let the model generalize to low-cost hardware without paired training data. Trained on RAABIN, Kaggle AML, BCCD, Kaggle Blood Cells, and Mehrad Aria's datasets; achieved state-of-the-art accuracy and outperformed existing models on edge cases.
- Designed the physical microscope prototype in Blender and built a complementary mobile app to make the full screening pipeline deployable in resource-limited clinical settings.

More projects available at caedenkidd.com/projects.

HONORS & AWARDS

URIP Research Scholarship – Michigan Tech, 2025 (competitive undergraduate research funding) • **HOSA Medical Innovation International Finalist** – 12th of ∼5,000 teams, 2023 • **WXYZ Best & Brightest Scholarship** – highest GPA of ∼400 graduating seniors, 2024 • **JacHacks 2026** – 2nd place of 60+ teams