Owen Pacetti

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EDUCATION

Milwaukee School of Engineering Milwaukee, WI

B.S. Computer Science · GPA: 3.73 / 4.00 *Expected May 2029*

Selected Coursework: AI Tools (Python ML/data stack), Linear Algebra with Applications, Procedural & Object-Oriented C++, Design & Cloud Patterns, Computer Architecture & Assembly Language, Calculus III

TECHNICAL SKILLS

Languages	Python, C#, C++, Java, VHDL, Assembly
ML & Data	NumPy, Pandas, Matplotlib, scikit-learn, Jupyter
LLM & Systems	Ollama, Qdrant, RAG pipelines, Docker, NATS, REST APIs, pytest
Platforms	Rosie HPC cluster + Slurm, NVIDIA Isaac Sim, Git, Linux/Unix shell, Jira, .NET/WPF

RESEARCH EXPERIENCE

Undergraduate Researcher — Digital Twin & Autonomous Robotics Aug 2025 – May 2026

Milwaukee School of Engineering *Milwaukee, WI*

- Owned physics rendering for a BIM-driven digital twin in NVIDIA Isaac Sim — the collider geometry and articulated, calibrated door joints that mapping, routing, and perception all run on top of
- Trained on MSOE's **Rosie** HPC cluster, letting an indoor service robot learn a building before it physically exists
- Manchado, A., Cellio, T., **Pacetti, O.**, Loduca, J. "From Revit to Robot: BIM-Driven Simulation for Autonomous Building Operations." Submitted to **WACV 2027** (#2074) — *under review*

Undergraduate Researcher — Galaxy Cluster Cosmology May 2026 – Present

MSOE Department of Physics · Advisor: Prof. Adam Wright *Milwaukee, WI*

- Study deep blending in weak gravitational lensing, where overlapping sources bias cluster mass estimates
- Extend the Weighing the Giants lensing pipeline inside a 1,400-commit Python research codebase

PROFESSIONAL EXPERIENCE

Software Engineering Intern Dec 2025 – Aug 2026

Cognex Corporation — In-Sight Vision Suite *Wauwatosa, WI*

- Led a summer-long epic delivering role-based access control in C#/WPF, gating 12 sensitive utilities behind 2 permission levels with credentials secured at the firmware layer; ships in the next release
- Designed the permission model to be extensible, so new access configurations require no code changes
- Migrated 5 OPC-UA test suites to pytest, consolidating setup across 3 files into one shared conftest fixture
- Fixed a firmware version display bug by correcting build-version object usage in the update UI
- Triaged and resolved ~10 UI and logic defects in C# and Python; modernized a legacy dialog to WPF

Level 1 Technician Aug 2021 – Aug 2023

University High School — Information Technology *Bloomington, IL*

- Diagnosed and repaired hardware/software faults on student and faculty devices; ran imaging and deployment

PROJECTS

Turing — Agentic Orchestration Framework Python, Docker, NATS, Ollama

- Building an agentic orchestration and self-improvement framework as a 4-node Docker Compose fleet

Hack 4 Health — 2nd Place, MSOE × Medical College of Wisconsin Jan 2026

- Built a Qdrant-backed RAG pipeline flagging hallucinations and unsanctioned advice in AI radiology reports

Neural Cellular Automata Python

- Implementing neural cellular automata from first principles to a trainable model, visualizing each intermediate step

LEADERSHIP & ACTIVITIES

MSOE Artificial Intelligence Club — Executive Board, External Outreach Aug 2025 – Present

- Run donor and K–12 outreach and club social presence; mentor the undergraduate research group

NCAA Division III Men's Soccer — Milwaukee School of Engineering Aug 2025 – Present

- Balance 18–23 hrs/week in season with a full course load, undergraduate research, and a software internship