

Michael Lizzio

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Objective

Seeking a Software Engineering internship.

Education

Rochester Institute of Technology | Rochester, NY | 2024-2029

Bachelor of Science in Software Engineering | Cumulative GPA: 3.8

Major: Software Engineering | **Immersion:** Geographic Information Systems (GIS)

Relevant Coursework: Software Development & Problem Solving I & II, Personal Software Engineering, Engineering Software Systems, Engineering Web-based Software Systems, Discrete Math, Calc I & II, Stats

Skills

Languages & Tools: Python, SQL, Git, Micropython, JavaScript, Java, C, C++, C#, MATLAB, Ollama, LLMs, OpenAI API

Technologies: Angular, React, Database Design, Windows, Linux, ArcGIS

Development Methods: SCRUM, Agile, Continuous Integration, Requirements Development, AI Prototyping, Rapid Development

Work Experience

Application Development Intern – AI & Automation

Greenman Pedersen, Inc.

Babylon, NY Summer 2026

- **Designed and integrated a local LLM filtering assistant** using JavaScript, Fastify, PostgreSQL, and Ollama, with retrieval-augmented generation (RAG), structured filter proposals, schema validation, and read-only query execution.
- **Built an automated evaluation harness** comparing eight local models across 200 prompts; selected and tuned a 3-billion-parameter local model to balance accuracy and response time within a 4 GB GPU memory limit.
- **Developed a document-processing and classification prototype using AI-assisted rapid prototyping**, combining OCR, weighted text classification (term frequency-inverse document frequency, or TF-IDF, similarity), and local LLM predictions to support classification and metadata extraction for a 300,000-page digitization effort.
- **Implemented human-in-the-loop review and feedback workflows**, including evidence highlighting, confidence scores, role-based review, and retraining from approved documents.
- **Created automated data-quality tools** to detect and repair legacy database inconsistencies using structured AI outputs, human approval, dry runs, and transactional updates.

Application Development Intern – GIS & Computer Vision

Greenman Pedersen, Inc.

Babylon, NY Summer 2025

- **Developed and integrated sign detection software application** for a road sign survey project.
- **Delivered precise sign locations from video** by using YOLO-E to detect signs and produce clean crops, then applying stereo vision, frame-to-frame tracking, and GPS data to determine each sign's geospatial coordinates.
- **Integrated new code into the existing C# application** via networking through a lightweight Python TCP server exposing the endpoints (DETECT, TRACK, and PROCESS_DETECTIONS). Completed field testing.
- **Developed software tool for facilitating classification and aggregation of GIS intersection point data.**
- Created a multi-user toolset built with Flask and Javascript to edit processed data and create a final PDF summary for QA.
- **Tested a Virtual Tunnel Inspection Unity App**, documenting bugs that I found.
- Participated in team stand-ups; shared progress blockers, asked for help early, and coordinated next steps.

Cyber Data Management Consultant

TTM Technologies Defense Contractor

Farmingdale, NY Summer 2024

- Gained hands-on experience with **Cybersecurity Risk Management Framework (RMF) controls** and related assessment software.
- Developed user-friendly GUIs in Python using Tkinter, enabling Cybersecurity specialists to easily modify data in XML files. Employed various techniques to test the code with different inputs to identify all edge cases.

Personal Projects

Symposium Notes – AI-Powered Lecture Note-Taking Tool

February 2025 – BrickHack 11 (Hackathon)

- **Developed a real-time note-taking application** that records, transcribes, and summarizes lectures.
- **Implemented live audio segmentation** to detect pauses and organize recordings efficiently.
- **Created a modern, user-friendly interface** with JavaScript and CSS for seamless transcript management.
- **Guided a teammate**, through JavaScript concepts, best practices, and project structure while splitting responsibilities so each of us could tackle separate features and then merge our code.

Automated Foosball Goalie

October 2022 – December 2022

- **Developed an Automated Foosball Goalie:** Designed and built a robot using a Raspberry Pi, stepper motor, and OpenCV for ball tracking, demonstrating skills in hardware integration and software development.
- **Real-time Object Tracking:** Utilized OpenCV and Kalman Filter to predict and track the balls movements.
- **Custom Motor Controller Software:** Created and refined software to control the stepper motor's speed and direction, resulting in a functional automated goalie with optimal positioning strategies.
- **Designed and Constructed Mechanical Frame:** Prototyped and assembled a sturdy frame using various materials, including T-slot aluminum, ensuring stable and precise movement of the goalie mechanism.