

Mahi H. Sheth

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EDUCATION

B.S. Computer Science — *College of Engineering & Applied Sciences, University of Cincinnati* Expected Graduation: May 2030

GPA: 3.02 | Relevant Coursework: Information Security & Assurance, Engineering Applications, Engineering Design Thinking, Data Structures (Spring 2027), Introduction to Computer Systems (Spring 2027), Python Programming (Spring 2027), Intermediate Computer Programming (Spring 2027), Linear Algebra (Spring 2027)

High School Diploma — *William Mason High School*

Graduated May 2025

GPA: 3.94 | Relevant Coursework: Introduction to Information Technology, Computer Programming I, Honors Financial Accounting, Banking & Investments, Principles of Marketing, Economics

SKILLS:

Languages: Python, C++, JavaScript, TypeScript, SQL, MATLAB, HTML, CSS

Frameworks/Libraries: React, Next.js, FastAPI, Prisma, LlamaIndex, Gradio

Tools/Technologies: Git, GitHub, Command Line (macOS/Windows), Docker, PostgreSQL, Azure, Bicep, GitHub Actions, REST APIs, Microsoft Graph API, Microsoft Entra ID, LabVIEW, Anthropic API

EXPERIENCE

Peck Hannaford + Briggs | Mechanical Contractor | Cincinnati, OH

Software Engineering Co-op

August 2026 – Present

- Architected an internal enterprise platform using **Next.js, TypeScript, PostgreSQL, and Prisma**, implementing Microsoft Entra ID SSO, per-request authorization, database-enforced audit logging, and Azure deployment with Bicep and Key Vault.
- Built an **HVAC telemetry pipeline** connecting **Tridium Niagara 4 controllers** via **oBIX** to PostgreSQL, preserving sensor history beyond a 42-hour rolling buffer across 2 buildings with automated collection, data-quality checks, and sensor fault detection.
- Developed an **AI-powered analytics interface** using Anthropic's API to generate SQL against live sensor data through a read-only database role, with application-verified data coverage and evidence panels exposing query scope and missing-data gaps.
- Fixed a cross-repository data-integrity defect that inflated reported data-loss hours by **25%**, adding a database uniqueness constraint and interval-merging logic; contributed to a platform test suite exceeding **2,100 test cases**.
- Building an **Azure deployment for 11 change-order automation workflows**, integrating Python, Microsoft Graph, Power Automate, SharePoint, and LLM processing to eliminate laptop dependency and support unattended execution.

Extern | Pfizer Document Insights & Data Extraction Externship | Remote

AI Engineering Extern

May 2026 – August 2026

- **Engineered PharmaLens**, a Python-based **RAG pipeline** using LlamaIndex and LLMs to automate extraction, classification, and retrieval across **8 pharmaceutical document types**, using Tesseract OCR, page-level classification, and document-boundary detection.
- **Designed metadata-aware dual-pass retrieval** with 500-word chunks, document metadata, and keyword fallback; benchmarked **3 embedding models** and multiple LLM configurations, achieving **100% answer and citation accuracy across 10/10 verified queries**, with **zero observed hallucinations** and a **2.49-second average response time**.
- **Developed a Gradio application** with cited, confidence-scored responses and PDF export, then delivered a technical presentation and live demo to **Pfizer senior leadership**, explaining design trade-offs and performance to technical and non-technical stakeholders.

PROJECTS

Facility Assessment Report Generator | React, FastAPI, Python, Vite, Tailwind CSS

May 2026 - June 2026

- Built and deployed a full-stack healthcare reporting application integrating the **CMS Provider Data Catalog API** through a FastAPI proxy to retrieve facility details by CMS Certification Number (CCN), including address, bed count, and star ratings.
- Implemented branded **PDF and Word report generation**, combining live CMS data with operational notes; deployed the React frontend on Vercel and FastAPI backend on Render, addressing CORS restrictions and free-tier cold-start latency.

Autonomous Sorting Robot | LabVIEW, LEGO Mindstorms EV3

May 2026 - June 2026

- Co-built and programmed an autonomous **EV3 robot in LabVIEW** to sort shredded disaster-relief materials, using weight detection to distinguish organic from metal waste and route bins to designated processing stations; project specifications included **90% sorting accuracy** and a **120-second maximum path time**.
- Integrated **4 sensors** (2 color sensors for closed-loop navigation and 2 touch sensors for bin handling) with a motorized arm to automate bin pickup, placement, delivery, and return-to-station operations across terrain variations of up to **2 cm**.
- Led documentation for a **3-person engineering team**, maintaining the design notebook, Gantt chart, and meeting agendas while authoring project deliverables across development.