

Francisco Mustico

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EDUCATION

Lawrence Technological University

Bachelor of Science in Computer Science - Software Engineering

Expected Graduation: May 2027

Southfield, Michigan

- GPA: 4.0 / 4.0 - Dean's List (All Semesters)
- Relevant coursework: Data Structures & Algorithms, Operating Systems, Software Architecture, Database Systems

EXPERIENCE

Software Engineering Intern

TWIG Power — C#, ASP.NET, PostgreSQL, REST API

May 2025 – Present

Novi, MI

- Architected and developed a **C# Windows Forms** production system backed by **PostgreSQL**, digitizing the Battery Module Assembly (BMA) workflow and eliminating paper-based processes across **30+ operators**.
- Designed a serial-number-based **traceability system** enabling instant component lookup, **removing the need for physical disassembly** during audits and significantly reducing verification time.
- Led the rollout of **touchscreen tablets** as **mobile workstations**, providing operators **real-time access to production and QA systems** across multiple stations.
- **Designed and deployed** a repair ticketing system with **live diagnostics**, **QA file uploads**, and **direct database integration**, fully replacing manual logging with a centralized, auditable workflow.
- Provisioned and configured a **dedicated Windows server** hosting the **PostgreSQL backend**, and supporting 32+ concurrent workstations with centralized, **24/7 data availability**.
- Developing an **internal web platform** using **ASP.NET Core Web API** to act as **middleware** between internal systems and external services (e.g., **GitHub REST API**), enabling structured issue tracking, automation, and future extensibility.

Lead Computer Science Tutor

Zaven Margosian Student Success Center

March. 2025 – Present

Southfield, MI

- Delivered **one-on-one tutoring** in **Python, C++, Java, SQL, Data Structures, Discrete Math**, and core CS courses (**CS1, CS2, SWE1**), enhancing student mastery of complex concepts.
- Created targeted walkthroughs and study aids to strengthen problem-solving skills in **recursion, sorting algorithms**, and **logic-based topics**.
- Provided exam preparation & assignment guidance, contributing to noticeable improvement in student performance & confidence.

PROJECTS

JavaMart

Jan. 2025

- Built a **desktop Java GUI** to manage products, invoices, and payments, **automating** order and tax processing to **replace manual bookkeeping**.
- Integrated **custom file I/O** for persistent synchronization between GUI and console modules.
- Optimized data entry flow for bulk orders, **improving consistency** and **processing speed**.

AI ArmCar

Dec. 2023

- Designed and assembled a robotic arm and **self-driving cart** using Arduino and servo motors for precision control.
- Implemented **object detection** and navigation using YOLOv4, enabling **real-time obstacle recognition**.
- Built a responsive **web interface** for manual overrides and **real-time sensor visualization**.

MathAid

Jan. 2023

- Built an **adaptive Python study app** for SAT & PAA prep with 150+ questions and **progress tracking**.
- Engineered performance-based **difficulty scaling** and **error detection** to tailor practice for each user.
- Optimized engagement through **automated feedback** loops that **identified recurring user errors**.

TECHNICAL SKILLS

Languages: Python, C++, C#, Java, SQL

Developer Tools: Github, Gitkraken, VS Code, Visual Studio, PostgreSQL, DBeaver

Frameworks: ASP.NET Core, Windows Forms

Human Languages: English, Spanish, French