

Francisco Mustico

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EDUCATION

Lawrence Technological University

Bachelor of Science in Computer Science - Software Engineering

Expected Graduation: May 2027

Southfield, MI

- GPA: 4.0 / 4.0
- Relevant coursework: Algorithms, Data Structures, OOP, Software Construction, Software Documentation, Requirement Specification, Computational Methods, Databases

EXPERIENCE

Software Engineering Intern

TWIG Power — C#, .NET, PostgreSQL, GitKraken

May 2025 – Present

Novi, MI

- **Designed system architecture** and implemented a **Windows Forms application in C#** to digitize the Battery Module Assembly (BMA) process, **replacing paper workflows** and centralizing operations via **PostgreSQL**, **boosting traceability by 700%** and supporting 32+ operators.
- Built a high speed lookup tool to trace internal module components by serial number, **reducing audit times** and **eliminating the need for physical disassembly**.
- **Coordinated with department heads and the company's president** to propose and deploy touchscreen tablets as **mobile workstations**, **expanding accessibility** across onsite/offsite locations and standardizing real-time production workflows.
- **Identified bottlenecks** in manual ticket logging, **gathered requirements and led system architecture and deployment** of a repair ticketing system, enabling **live diagnostic tracking**, QA file uploads, and **immediate database integration with 100% reduction in paperwork**.
- Spearheaded **selection and deployment** of a **dedicated Windows server** to host the **PostgreSQL database backend**, enabling centralized, **real-time data access** for 32+ connected workstations across departments, with **24/7 availability**, version control, and **persistent storage**.

Lead Computer Science Tutor

Zaven Margosian Student Success Center

March. 2025 – Present

Southfield, MI

- Provide one-on-one tutoring in **Python, C++, Java, SQL, Data Structures, Discrete Math, CS1, CS2, SWE1**.
- Created walkthroughs and study aids to help students build problem solving skills in **recursion, sorting, and logic** based topics.
- Provided on demand exam prep and assignment support, leading to measurable improvement in student performance.

PROJECTS

JavaMart

Jan. 2025

- Developed **intuitive Java GUI** displaying product images, prices, descriptions, and managing customer records.
- Engineered a **dynamic discount system** for bulk orders with **automated tax calculations**, secure payment scheduling, and **invoice generation**, **reducing manual errors by 100%**.
- Designed a **custom TXT file I/O system** for products.txt and customers with **real-time data validation** and **bidirectional synchronization** between GUI/console modes, **ensuring 100% data accuracy through consistency checks**.

AI ArmCar

Dec. 2023

- Constructed a robotic arm utilizing **Arduino** and servo motors to achieve precise manipulation in various tasks.
- Engineered an **autonomous cart** equipped with a camera and **AI for object detection** and manipulation, employing YOLOv4 for robust **obstacle detection** and navigation.
- Employed **HTML, Javascript and CSS** to allow user interaction with the robot.

MathAid

Jan. 2023

- Created **Python-based** educational software for SAT & PAA test prep, optimizing learning experiences.
- Utilized **CSV** data storage, **Pandas**, and **adaptive algorithms** to enhance learning, providing over **150 questions**.
- Achieved **enhanced adaptive learning** capabilities, tailoring content to individual needs and progress while enabling the program to **recognize and address user errors** for continuous improvement.

TECHNICAL SKILLS

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

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

Frameworks: .NET Core, Windows Forms

Human Languages: English, Spanish, French