

Joseph-Paul Marhefka

Computer Science and Engineering Student

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Computer Science and Engineering student at Santa Clara University with hands-on experience in embedded systems, C/C++ programming, hardware integration, and full-stack web development. Builds technical projects including an autonomous infrared-guided drone, Deal Scout Chrome extension, and interactive portfolio website.

Education

Santa Clara University

Sep 2023 - Jun 2027

Bachelor of Science Computer Science and Engineering

Projects

Mechatronics Robot Competition

Jan 2026 - Apr 2026

- Won first place in final mechatronics competition as part of a 3-person team by building an autonomous bartending robot that completed a perfect run.
- Programmed an Arduino Mega 2560 state machine in C++ for PID line-following, PWM servo control, light sensing, and color sensing.

DibSift

Apr 2026 - Present

Built a Chrome Manifest V3 extension that helps users manually save, compare, and analyze Facebook Marketplace listings.

- Integrated Gemini API analysis to rank up to 10 selected listings with pros, cons, offer advice, seller questions, and message drafts.

Autonomous Laser-Guided Drone

Jul 2025 - Present

Built an autonomous drone prototype designed to navigate toward modulated infrared beacon signals.

- Programmed ESP32 flight-control logic and integrated Betaflight communication through UART/MSP, I2C sensors, and web-based telemetry tools.

Work Experience

Line Cook

Jul 2024 - Dec 2025

Outbound Hotels | Stowe, VT

Led solo line-cook shifts during peak service, preparing orders for up to 60 guests while maintaining timing and quality.

Core Skills

Programming Languages: C, C++, JavaScript, TypeScript, HTML/CSS, MATLAB, Python, Assembly

Web/Tools: React, Next.js, Chrome Extensions, Manifest V3, Git, Vercel, Linux, Shell Scripting, CSS Modules

Embedded Systems & Hardware: ESP32, Arduino, PlatformIO, Betaflight, I2C, UART/MSP, PWM, Soldering

Computer Science Concepts: Data Structures, Algorithms, Embedded Systems, Computer Networks