Joseph-Paul Marhefka

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Education

Santa Clara University — Santa Clara, CA
Bachelor's of Science, Computer Science Engineering — Expected Graduation: 2027
Relevant coursework: Logic Design, Physics I-III, Calculus I–IV, Electric Circuits

Experience

Line Cook — Stowe, VT
Outbound Hotels — 2024 - Present
- Spearheaded solo shifts on peak nights, serving up to 60 guests at once.
- Collaborated with head chef to streamline prep and order flow.
- Implemented closing checklist, cutting clean-up time by 25%.
- Managed restaurant tech needs, ensuring smooth team operations.

Youth Coach (Tennis & Skiing) — Stowe, VT
Stowe Tennis Club & Mount Mansfield Academy — 2021 - 2023
- Spearheaded lessons for 30+ students, improving skills and confidence.
- Collaborated with coaches to plan drills and training sessions.
- Implemented progress tracking to guide athlete development.
- Managed schedules and setup, ensuring safe, smooth practices.

University Projects

Autonomous Laser-Guided Drone — 2025 - Present
- Description: Built an autonomous drone prototype guided by infrared signals.
- Role: Designed hardware integration and programmed flight logic on ESP32-S3.
- Technologies Used: C/C++, ESP32, PlatformIO, Betaflight, I2C, UART (MSP), HTML/CSS/JavaScript, TCP Networking
- Outcome: Gained hands-on experience in embedded systems, sensor integration, and networking.

Systems Programming & Data Structures Labs — 2025 - Present
- Description: Designed C programs to implement core data structures and algorithms.
- Role: Developed modular code with headers, Makefiles, and unit testing in Linux.
- Technologies Used: C, Linux (CLI), Makefile, Data Structures (lists, sets, hash tables).
- Outcome: Strengthened low-level programming skills and improved runtime efficiency with optimized algorithms.

Activities

FPV Drone Piloting & Building — 2019 - Present
- Description: Build, tune, and fly FPV racing and freestyle drones.
- Skills Developed: Betaflight config, radio setup, soldering, and hardware repair.
- Achievements: Built 5 drones, mastering workflow for better design and flight.

Additional

Technical Skills: C, C++, MATLAB, Python (basic), Assembly (basic), HTML/CSS/JS, Linux, Git, Shell Scripting, Embedded Systems, Data Structures, I2C, UART (MSP), Cryptography | **Languages:** English (Fluent), French (Intermediate)