# Conor Hayes

cwoodhayes | cwoodhayes | cwhayes.squarespace.com | cwoodhayes@gmail.com |
Chicago, IL (willing to relocate)

## Summary

Creative engineering leader building across the full stack of robotics, from AI/ML algorithms to firmware to cloud software. Experienced in embedded systems, robotics software, and full-stack cloud infrastructure. Passionate about developing reliable, human-centered robotic systems.

## Skills

| | |
|---|---|
| **Embedded & Robotics** | Embedded systems, IoT, real-time firmware (ARM Cortex-M, NRF5x, Zephyr, Arduino), ROS2, Linux, computer vision |
| **Software Engineering** | Cloud and backend development on AWS (ECS, EC2, S3, RDS), CI/CD, containerization with Docker, DevOps pipelines |
| **Programming Languages** | C, Python, C++, Rust, SQL, TypeScript, Matlab, Java |
| **Tools** | Git, VS Code, Jenkins, MATLAB, OpenCV, NumPy, Pandas |
| **Leadership** | Technical architecture, team management, deep-tech product development, and interdisciplinary collaboration |

## Work Experience

**Consultant — Conor Hayes Software Consulting** 2023 – Present

- Provide technical expertise and product development guidance for deep-tech hardware/software companies.
- Led architecture and implementation of a reusable hardware testing framework now powering two $500k test racks for space and fusion clients.
- Designed database schema and AWS cloud architecture for a digital-twin battery testing system in satellite assembly.
- Delivered computer vision support for an autonomous car refueling robot.
- For **Wesper**: Redesigned BLE streaming protocol for an NRF52-based sleep sensor (8× bandwidth increase) and migrated backend to CI/CD with containerized AWS deployment.
- Led R&D on IMU/EMG-based deep learning system for human body pose estimation for both academic and commercial use.

**Software Engineer — Wesper** 2020 – 2022, New York City

- Led development of device firmware, backend, and cloud infrastructure for an FDA-approved "sleep lab at home" product.
- Scaled system from 8-person prototype team to 23-person production team serving 1000+ patients monthly.
- Tech stack: Python, C, NRF52, AWS (EC2, S3, RDS), BLE (C/JS), Matlab, Jenkins.

**Software & Electrical Engineering Intern — Honeybee Robotics** May – Aug 2018, Pasadena, C

- Built middleware and electronics for robotic assemblies.
- Developed hardware drivers, GUIs, and control algorithms for an internal ROS-like testing framework.

**Flight Electronics Intern — NASA Jet Propulsion Laboratory** Jan – Aug 2017, Pasadena, CA

– Developed the hardware and software test suite for the first deep-space-capable cubesat C&DH board (Sphinx).
– Credited as inventor on NASA Copyright of Invention NPO 51462-CP.

## Education

2015 – 2019 **University of Southern California**, B.S. in Computer Engineering & Computer Science
GPA: 3.82 (Magna Cum Laude)
Minors: Chinese for the Professions, Engineering Honors, Thematic Option (Honors in Liberal Arts)
Avionics Lead, USC Rocket Propulsion Lab — Co-led first undergraduate team to launch a rocket to space (Traveler IV).

## Awards

– AIAA Achievement Award for contributions to USC's Traveler IV rocket project.
– National Academy of Engineering Grand Challenges Scholar (1 of 40 nationwide).
– USC Renaissance Scholar (0.9% of graduating class).
– USC Trustee Scholar (4-year, half-tuition merit scholarship; one of 100 awarded).

## Projects

**Independent Music Career** Released original indie rock under artist name "Wise John." Accumulated 700,000+ Spotify streams. Sold out 170-capacity show at NYC's Mercury Lounge (2024). Developing follow-up album in 2025.