Nick Yaeger

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EDUCATION

B.S. in Electrical & Computer Engineering, Carnegie Mellon University — Expected 2028

GPA: 3.7

Relevant Coursework: Computer Systems, Distributed Systems, Design of Digital Systems, Computer Vision.

EXPERIENCE

Instructor — Jan 2025 - Present

Student College, CMU Robotics Institute — *Pittsburgh, PA*

- Teach master's elective robotics course with enrollment spanning undergraduate, graduate levels.
- Give lectures, labs covering circuits, sensing, PID control, computer vision, actuators, path planning.
- Manage over $5K in funding from CMU Robotics Institute to provide low-cost robot kits to students.
- Fostered high engagement, leading to 8-year high in registration and feature story in school news.

Co-founder, Chief Technology Officer — Sept 2024 - Present

Basilisk Robotics — *Pittsburgh, PA*

- Building an autonomous underwater robotics startup tackling sustainable hull cleaning, inspection.
- Secured $6.5K in non-dilutive grants, $150K in resources from Microsoft, NVIDIA, JP Morgan Co.
- Developing software, simulations, embedded systems for autonomous navigation and sensing.
- Awarded $100K investment from Innovation Works' robotics accelerator, youngest team to ever do so.

Embedded Systems Engineer — Aug 2024 - Present

Carnegie Mellon Racing — *Pittsburgh, PA*

- Design STM32-based PCB housing vehicle controls, cooling system, accumulator power sensing.
- Develop firmware in C for autonomous driving, data aqcuisition, hardware-in-the-loop testing.
- Implemented DAQ pipeline with automotive-grade sensors, mixed-signal PCBs, CAN bus, telemetry UI.
- Educate newer members on PCB design, firmware, embedded systems, engineering design cycle.

PROJECTS

Chron Smartwatch: Build custom, open source smartwatch with heart rate monitor, oximeter, pedometer, Bluetooth, ML-based raise-to-wake, multi-week battery life. Currently prototyping. *Nordic nRF SoC, ZephyrRTOS, ARM, Bluetooth Low Energy, Altium Designer*

Distributed Bitcoin Miner: Developed platform for distributed tasks including bitcoin mining. Built on a custom, reliable client-server communication protocol with message integrity features. Implemented a multilevel queue-based scheduler with aging for load balancing. *Go, UDP, Linux*

Exercise Alarm Clock: Built alarm clock requiring users to complete a task (push-ups, jumping jacks, memory game) before turning off. Reached finalist stage of hardware hackathon entrepreneurship competition. *Raspberry Pi, NumPy, SciPy, Computer Vision, OpenCV, MediaPipe*

LEADERSHIP

- **Senior Member, CMU Robotics Club:** Maintain club workshop and provide guidance to newer members. Software Engineer for quadruped robot project and mentor for CMU's premier robotics hackathon.
- **Eagle Scout, BSA:** Led team of 20+ volunteers to repaint and renovate parking lot for local high school, saving the school over $1000 and providing over 140 volunteer hours.

SKILLS & INTERESTS

Technical Skills	C, Python, Rust, Go, ASM, Altium Designer, Firmware, Robotics, Machine Learning
Interests	Piano, Marching Band, Rock Climbing, Backpacking, Watching the Houston Astros