Caleb Matthews

Stanford University – 3.74 GPA

B.S. '25 & M.S. '26 Electrical Engineering

Seeking: Hardware Engineering/Product Management | Applications Engineering | ML Research Roles

Work Experience

HP INC. — Palo Alto, CA (HQ) & Vancouver
Electrical Engineering & Computer Science Intern — 2024 – 2025

- Earned 1st Place National HP Way Award, 1st Place Project Presentation, and Division Award
- Automated critical testing software: 3.9x faster, 88% fewer clicks, 80% failing board recovery
- Recovered $1M+ in failing board inventory through automated diagnostics software
- Software now used standard tool across HP's 3 manufacturing facilities

LAB64 – STANFORD MAKERSPACE — Stanford, CA
University Lab Teaching Assistant — 2023 - Present

- Conducted >200 technical consultations, translating requirements into actionable designs
- Mentored students on startups, art projects, racing fins, and more.
- Developed deep experience with lean & rapid prototyping and design-for-manufacturing

Project Experience

MOONSHOT CLUB – THE MODULIN

- Invented a multisensory interactive musical instrument demonstrated with the SF Symphony
- Integrated tactile sensors, audio signal processing, and embedded control systems

VICE PRESIDENT: STANFORD RADIO CLUB – BUILD–A–RADIO WORKSHOP

- Organized and instructed 40 students in building a QDX long-range radio transceiver

CO–PRESIDENT: STANFORD STUDENT ROBOTICS

- Grew student membership from 10 -> 40 in under 3 months, managed $80k budget

FLYWHEEL NERF LAUNCHER

- Designed & fabricated a high-precision PID flywheel launcher for a student robot competition

Research Experience

Brain in Silicon Lab — Stanford, CA
Graduate Research Assistant — May 2025 - Present

- Architected novel in-memory compute design for associative memory retrieval
- Developing spike-sequence neural network architecture for 3D silicon manufacturing

STANFORD VISION LAB — Stanford, CA
Artificial Intelligence Researcher — 2022 - 2023

- Developed a robotic, embodied-AI development benchmark for public use

BURNETT LAB @ OREGON STATE UNIVERSITY — Corvallis, OR
Human Computer Interactions Researcher — 2019 - 2021

- Co-invented AAR/AI process; authored four IEEE publications
- Collaborated with Microsoft research on Office365 CoPilot prototype development

Peer-Reviewed Publications

5 publications (1 Best Paper Nomination, 450+ citations) | Collaboration with Microsoft Research

BEHAVIOR 1-K: A Benchmark for Embodied AI with 1,000 Everyday Activities and Realistic Simulation

- Nominated for "Best Paper" at the 2022 Conference on Robotic Learning

Keeping It "Organized and Logical" After Action Review for AI (AAR/AI) – (IUI '21)
After-Action Review for AI (AAR/AI) - (IUI '20)
Finding AI's faults with AAR/AI: An empirical study - (TIIS '22)
Doing Remote Controlled Studies with Humans: Tales from the COVID Trenches - (CHASE '21)