Emmett Stralka Claremont, CA • estralka@g.hmc.edu • (216) 906-6390 • GitHub • LinkedIn

OBJECTIVE

Aspiring Engineer passionate about building Electrical and Software power products.

Apple **August, 2025–Present**

Controls Engineer *Cupertino, CA*

- Working on a team of 7. Focused on manufacturing, algorithms, embedded systems, and PID controls.

Ford Motor Company **May, 2025 – August, 2025**

Technical Product Manager AI-ML Intern *Palo Alto, CA*

- Collaborated with a team of **40+ ML engineers** to develop an in-house demo prototype to evaluate architecture options, providing critical insights that shaped executive platform decision-making on a **$200M contract**.
- Designed and deployed a custom embedded **small language model** (SLM) with cloud fallback for Ford's next-generation Vehicle Assistant, enabling real-time, context-aware in-vehicle interactions using live **CAN bus** and structured **API calls**.
- Evaluated and optimized the assistant's **agentic architecture,** leveraging **retrieval-augmented generation** (RAG) for dynamic knowledge injection and building data-driven routing success metrics using **BigQuery**.

Trilobio **August, 2024 – December, 2024**

Electrical Engineering Intern *San Francisco, CA*

- Built an automated mass sensing prototype, combining **capacitive sensing**, **flexure mechanics**, and **robotic contro**l for high-throughput lab automation.
- Designed and fabricated **parallel plate and fringe capacitor PCBs** using **KiCad** for differential capacitance measurement in high-resolution mass sensing applications.
- Developed **viscoelastic damping systems** for flexible polymer fixtures, reducing vibrational noise and enabling **0.1 mg measurement resolution.**
- Integrated **24-bit ADCs**, embedded **signal conditioning,** and **RF shielding** and grounding techniques to ensure signal integrity in noisy environments.

Ford Motor Company **May, 2024 – August ,2024**

Data Science Intern *Palo Alto, CA*

- Integrated Ford's **protobuf-based** Vehicle **Energy Model** (VEM) onto the V363 EV platform, enabling energy-aware routing via Android Auto for **20,000+ E-Transit vans**.
- Queried and analyzed **fleet-scale telemetry using SQL** to validate VEM predictions against real-world drive and charge data, enabling reliable **State of Charge** (SOC).
- Architected forward-compatible **VEM tuning** workflows, performing **hyperparameter optimization** on weighted model parameters to improve prediction stability across diverse EV usage patterns.
- Coordinated with **Apple CarPlay UX** and SYNC engineering teams to streamline the **EV pairing** and routing experience for **200,000+ Electric vehicles**.

Projects

Smart Pour Project — Founder & Engineer (2025–Present)

- Secured **$4,000 in seed funding** and filed a **provisional patent** for a **smart alcohol dispensing system**.
- Designed and **manufactured custom PCB and housing**, and **embedded controls** to enable accurate, reliable pours with **real-time data tracking** and **ML-powered inventory** management.

EDUCATION

Harvey Mudd College **May, 2026**

Bachelor of Science, Engineering & Economics *Claremont, CA*

- Product Space Claremont Chapter, Advanced Rocketry, Robotics, Varsity Track (100m SCIAC Champion)

Carnegie Mellon University **August, 2021**

Technical Degree, Design *Pittsburgh, PA*

SKILLS

- Hardware: FPGA, Microcontrollers, STM, PCB design, System Verilog, Questa
- Technical: Python, SQL, BigQuery, TensorFlow, Protobuf, CAN/LIN, Android Auto, Retrieval-Augmented Generation (RAG), SLMs, NLU + LLM, Node.js
- Tools: GitHub, Figma, Unity Catalog, Protopie, Cursor