Eli LeChien

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Education

Stanford University – Palo Alto, CA   *Expected Graduation: March 2026*
  M.S. in Electrical Engineering   *GPA: 4.00*
 Purdue University – West Lafayette, IN   *Aug 2020–May 2024*
  B.S. in Electrical Engineering   *GPA: 4.00*

Skills

Software: KiCad, LTSpice, ANSYS, C/C++, MATLAB, Python, Convex Optimization/CVXPY, Machine Learning
Hardware: Analog circuit design, PCB design, power electronics, microcontrollers, motors, 3D printers, sensors

Work Experience

Stanford Robotics Center Smart Sensing Systems Lab, *Research Assistant* – Palo Alto, CA   *Sept 2024 – Present*
- Designed PCB to characterize resistors and capacitors under 100 atm pressure with .1% sensor resolution
- Designed electromechanical buoyancy management system for a drone-deployable 300g ocean profiler.
- Aligned with Oceanographers to specify sensor characteristics to reliably capture data in 0-1km depth.

FANUC, *Product Management Intern* – Palo Alto, CA   *Sept 2024 – Dec 2024*
- Researched new product opportunities in the high-mix weld shop collaborative robotics space, including 50+ interviews conducted across end users, distributors, integrators, competitors, and FANUC sales.

Tesla, *Drive Systems Design Intern* – Palo Alto, CA   *May 2024 – Sept 2024*
- Developed code library to integrate new meshing software into motor optimization tool, allowing for 200+ additional mesh settings to improve simulation accuracy and resulting in a 30% runtime decrease.
- Worked cross-functionally with Tesla bot team to improve modeling of robotic actuators and developed a new meshing method yielding better simulation accuracy and 99% pure cogging torque waveforms.
- Assisted with construction of prototype motors, including magnetization of a novel rotor with a 3T field.

Purdue Electric Vehicle Lab, *Research Assistant* – West Lafayette, IN   *Jan 2022 – May 2024*
- Developed power electronics control system for 230kW in-motion wireless charging of electric semi-trucks.
- Designed and soldered 6-layer mixed-signal PCB for microcontroller peripherals totaling 182 components.
- Created a fiber optic magnetic field synchronization protocol for transmitter coils, achieving a <11 μs delay.

Tesla, *Drive Unit Production Controls Intern* – Austin, TX   *May 2022 – Dec 2022*
- Made continuous process improvements while balancing stakeholders in production, maintenance, engineering, and management, yielding ~250 code commits across multiple production lines.
- Managed implementation of statistical process control on 50+ stations, enabling parameter drift detection.

Leadership Activities

Stanford Linear Circuit Analysis Course (EE101A), *Course Assistant*   *Sept 2024 – Dec 2024*
- Guided 60+ students in lab sections and office hours, improving comprehension and problem-solving skills.

Purdue Engineering Student Council, *Website Manager & Committee Member*   *Aug 2021 – May 2024*
- Redesigned website to be more informative and intuitive to recruiters from 400+ companies.
- Selected and interviewed members of 40 multidisciplinary organizations to allocate $25K in funding.

Senior Design Cummins Electric Semi Team, *Team Lead*   *Aug 2023 – Dec 2023*
- Managed team designing vehicle hardware and power controls for wireless charging of electric semi-trucks through task delegation, timeline dictation, and allocation of a budget of $10k for a 230kW power system.