Leilani Elkaslasy

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Education

Harvey Mudd College | Engineering, Dean's List | Claremont, CA **Class of 2026**

Relevant Coursework: Digital Electronics and Computer Architecture, Electronic and Magnetic Circuits/ Devices, Applied Mathematics for Engineering, Systems on Chip Design, Microprocessor Systems Design and Application (FPGA and MCU)

Research

Clay-Wolkin Fellowship | *Researcher* | Harvey Mudd College **September 2024-May 2025**
- Designing Wally, a CORE-V RISC-V microprocessor in collaboration with the Open Hardware Group. Involved in design and verification of the processor
- Co-developed a python script that automates a daily run of all test benches, updating our team of bugs daily.

Tribology Lab | *Research Assistant* | Harvey Mudd College **September 2024- Present**
- Developed a novel ceramic resin and calculated the average abrasiveness of available commercial resins for the purpose of additive manufacturing through Stereolithography 3-D printing
- Co-Authored 3 abstracts presented and published through the Society of Tribologists and Lubricant Engineers

Hopkins Marine Station | *Research Assistant* | Stanford University **June-July 2023**
- Conducted underwater surveys of local giant kelp forests in a cohort of 8 students under Prof. Elahi.
- Co-Created an open-source database of benthic and ocean floor survey videos for national research efforts.
- Designed and conducted original research project investigating nudibranchs and sea sponge interdependence.

Work Experience

Capstone with Xdemics | *Team lead* | Novato, CA **September 2025- May 2026**
- Leading a team of 7 peers in Robotic Automation of a new class of bioreactors in the cell and gene therapy space
- Company will deploy this in server farms like clean rooms for mass production of life saving biologics
- Design and implement control system onto FPGA and integration of digital and analog circuit elements

ThermoFisher Scientific | *Engineering Intern* | Carlsbad, CA **May 2025- August 2025**
- Worked in the experience design center as a product designer and sustainability consultant to different instrument teams and business units as part of a multidisciplinary tiger team.
- Created rapid LCA tool for project-specific internal use and trained product design team in tool to overcome key sustainability bottleneck of going back and forth with sustainability team. Used tool to conduct key calculations to identify area for 40% carbon footprint reduction in lab instruments.
- Designed feature updates for lab biosafety infrastructure, completed user research, developed GUI, prototyped design and presented to center leadership.

Capstone with USDA Digitizing EPG Hardware | *Jr. Engineer* | Claremont, CA **Jan 2025- May 2025**
- Collaborated with peers, USDA, and Auburn University to digitize an entomology research tool (Electropenetrography) used to study insect feeding behavior by designing and verifying a hand held Bluetooth enabled system to replace the legacy instrument which previously required 8x4 feet of bench space.
- Contributed to the design and verification of the PCB, contributed to UI development, firmware and FPGA programming, and integration of Bluetooth-enabled, real-time data transfer for field use.

Adaptive Design Association (ADA) | *Fellow* | New York City **March 2015- Present**
- Designing and fabricated adapted technologies, consulting with occupational therapists, educators, and families to ensure client needs were met.
- Founded a student organization at Harvey Mudd to cater to local special needs schools and disabled individuals in the greater LA area, designing and building novel solutions for individuals with disabilities. Fundraised $7,000 and delivered 70 unique adaptations to community partners in the inaugural year.

Seatrek | *Program Lead* | Caribbean **Summer 2018- 2021**
- Progressed from being an unpaid intern to being a marine ecology instructor and scuba diving guide, to leading their Bahamas program, overseeing a 60' sailboat, 5 crew members, and 20 students for Summer 2021.
- Created a new place-based science curriculum for a new course area, and worked as a Divemaster (3 years, taught and led 200 divers) and Program Lead (1 year) while actively maintaining and operating yachts and overseeing young adults (ages 12-22).

Skills

Programming languages: Python, R, System Verilog, C++, Assembly Language, Matlab **Software:** Lattice FPGA, Questa, Solidworks, COMSOL, LabView, KiCad, Keyshot | **Machining Skills:** lathe, mill, laser cutting, soldering, CNC machine, welding,