AMEERA ELGONEMY

aelgonemy@berkeley.edu | 707-334-7593 | www.linkedin.com/in/ameera-elgonemy

EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY Aug 2023-May 2024
MEng in Mechanical Engineering, Aerospace Concentration

CORNELL UNIVERSITY Aug 2019-May 2023
BSc. in Mechanical Engineering, Cum Laude
Relevant coursework: Propulsion of Spacecraft; Introduction to Computing Using Python; Fluids and Heat Transfer Laboratory; System Dynamics; Mechanical Synthesis; Mechatronics; Mechanics of Engineering Materials

SPECIALIZED SKILLS

Software Programs: Ansys, Autodesk Inventor and Fusion360, SolidWorks, Python, MATLAB, Cura, Excel.
Electronics: Experienced with circuit board schematics and components, PCB soldering, as well as operating Arduino boards with C/C++ syntax.
Machining: Machine shop trained to use lathe and milling machines.

EXPERIENCE

Co-generation Project PCB and Heat Sink Design Jan 2023-May 2023
Cornell University Mechanical and Aerospace Engineering Department, *Undergraduate Researcher*
- Designed casing to house a PCB and lithium-ion battery that would power a thermo-cooker.
- Tested different heat sink models using Ansys to determine the most effective design to ensure PCB and battery did not overheat.

Nanocomposite Research for Insulation on the Moon Aug 2022-Jan 2023
Cornell University Mechanical and Aerospace Engineering Department, *Undergraduate Researcher*
- Developed a mechanism for creating flat, homogeneous samples from polypropylene samples to make them ideal for X-ray diffraction analysis.
- Synthesized and analyzed Boron Nitride composites to develop materials ideal for high voltage insulation.

SLAC National Accelerator Laboratory June 2022-Aug 2022
Stanford University, *Intern*
- Worked in the nEXO (Enriched Xenon Observatory) experiment laboratory with the goal of searching for a theoretical decay process known as neutrinoless double beta decay.
- Tested and modified experiment's xenon purification system.
- Developed and tested a capacitance based liquid level sensor for measuring xenon levels.
- Used Cura to alter g-code to optimize 3D-printer to print with various kinds of filament.

Cornell Mars Rover Aug 2019-Sept 2022
Cornell University, *Student Project Team Leader*
- Proposed and manufactured the mechanical on-rover system that would autonomously perform life-detection tests on 3 different rock and soil samples, collaborated with team to integrate different rover subsystems.
- Led subteam of 4 students to implement chemical tests, cameras, and sensors that would be used on the Mars Rover to determine if the soil and rock samples being analyzed contain or once did contain life.

Modeling Habitable Exoplanets Discovered by TESS and Kepler Space Telescopes Aug 2020-May 2023
Cornell University Carl Sagan Institute, *Undergraduate Researcher*
- Generated absorption black-body curves using Python for 12 different temperatures and 13 novel materials created in an on-campus lab that could comprise the material make-up of exoplanets.
- Analyzed 20,000+ exoplanets discovered by the TESS and Kepler space telescopes to determine and model the exoplanets that fell into their respective star system's Habitable Zone.