

# AMEERA ELGONEMY

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## EDUCATION

### CORNELL UNIVERSITY

Aug 2019-Present

#### College of Engineering

**BSc. in Mechanical Engineering (Class of 2023)**

GPA: 3.7, Dean's List Fall 2019 and 2020

Courses taken to-date: System Dynamics; Heat Transfer; Mechanical Synthesis Mechatronics; Mechanics of Engineering Materials; Python; Fluid Mechanics; and Sustainable Engineering of Energy.

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## RESEARCH & EXTRACURRICULAR EXPERIENCE

### Modeling Habitable Exoplanets Discovered by TESS and Kepler Space Telescopes

Aug 2020-Present

Cornell University, Undergraduate Researcher

Use Python, MATLAB, and Excel to analyze 20,000+ exoplanets discovered by the TESS and Kepler space telescopes to determine and model the exoplanets that fall into their respective sun system's Habitable Zone.

### Cornell Mars Rover (CMR) Astrotech Subteam Member

May 2021-Present

Design and manufacture the mechanical on-rover system that will autonomously perform life-detection tests on the rock and soil samples. Work with CAD programs, ANSYS, and manufacture parts in machine shops on campus.

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## LEADERSHIP & PROFESSIONAL EXPERIENCE

### Stanford Linear Accelerator Center (SLAC) Intern

June 2022 – Aug 2022

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.

Primarily worked on the experiment's xenon purification system. Developed and tested a capacitance based liquid level sensor for measuring xenon levels, designed and prototyped casings for electronics, developed tubing for xenon purification system, optimized 3D printer settings to print with various kinds of filament, used python to analyze performance of quartz fiber connected to Class 4 UV laser.

### Cornell Mars Rover (CMR) Science Sub-team Lead

Aug 2019-May 2021

Created and implemented tests that would be performed autonomously on the Mars Rover to determine if the soil and rock samples being analyzed on rover contain or once did contain life.

CMR is a student-run engineering project team on campus, which aims to design an innovative Mars Rover to compete in the University Rover Challenge, which is held annually at the Mars Desert Research Station in Utah.

### Chabot Space & Science Center, Oakland, CA

May 2018-Dec 2019

Designed, created, and performed scientific demonstrations based on astronomical concepts for visitors to science center.

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## CAMPUS INVOLVEMENT

**Women of Aeronautics and Astronautics (WoAA)**, Cornell University, Member

Sept 2020-Present

**Society of Women Engineers**, Cornell University, Outreach and Diversity Committee

Aug 2019-Present

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## SPECIALIZED SKILLS

**Machining:** Machine shop trained to use lathe and milling machines.

**Electronics:** Experienced with circuit board schematics and components, as well as operating Arduino boards with C/C++ syntax.

**Software Programs:** MATLAB, ANSYS, AutoCAD, Autodesk Fusion360, Python, Java, Excel

