

LUCAS LIBSHUTZ

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EDUCATION

Current GPA: 3.62

CORNELL UNIVERSITY COLLEGE OF ENGINEERING

B.S. in Mechanical Engineering

Ithaca, NY

September 2023 – May 2027

WORK EXPERIENCE

CORNELL ELECTRIC VEHICLES

Chassis Subteam Lead

Ithaca, NY

October 2023 – Present

- Member of student project team dedicated to building autonomous, hyper-efficient electric cars.
- Lead a 5-person subteam responsible for the design, analysis, and manufacture of the carbon fiber monocoque. Manage schedules, supplier coordination, and on-time delivery. Oversee part procurement and cross-team collaboration to ensure integration with vehicle systems.
- Directed the transition from Autodesk Inventor to Alias, self-learning and training team members within two months. Used knowledge to design and manufacture the next generation monocoque for our team.
- Contributing to the Autonomy subteam, supporting perception system development for autonomous driving.
- One of three Blue Apron CNC machinists on the team, entrusted to run the most complex equipment and tools in the student machine shop.

ITALIAN INSTITUTE OF TECHNOLOGY – ARTIFICIAL AND MECHANICAL INTELLIGENCE (GENERATIVE BIONICS)

Researcher

Genoa, Italy

June 2025 – August 2025

- Developed a JAX compatible framework for whole-body control of the *iCub* and *ergoCub* humanoid robots, useful for batched and differentiable simulations and analyses.
- Quickly learned from field experts about spatial dynamics, optimization theory, and advanced control algorithms to deliver the working controller on time.

SCRATCH FOUNDATION

Researcher

New York, NY

June 2024 – August 2024

- Spearheaded the development of a transformer-model pipeline to translate and classify Scratch projects for demographic research.
- Implemented a custom clustering algorithm to generate distinct categories via an embedding model. This algorithm used previously unlabeled, untranslated data and generated distinct categories that were used for automatic categorization.
- Packaged the methodology into an easy-to-use Docker container for rapid remote deployment.

AVSTAR FUEL SYSTEMS

Summer Intern

Jupiter, FL

August 2022

- Completely revamped the organization of all CNC G-Code files.
- Streamlined schematic verification workflow by creating a Python script to automatically sort and label schematics.

PERSONAL PROJECTS

STUDENT RESEARCHER - INCREASING THE RESOLUTION OF CASSINI SPECTRA

August 2021-May 2023

- Identified the systematic instrument shift present in the Visual and Infrared Mapping Spectrometer (VIMS).
- Developed an algorithm to exploit the systematic shift of the instrument to increase the spectral resolution of surface measurements of Titan.
- Created a custom Python algorithm that increased the resolution of surface spectra fivefold.
- 2nd place National Young Astronomer Award, ISEF Finalist, JSHS Nationals Honorable Mention

CUSTOM SMALL FORM FACTOR PERSONAL COMPUTER

May 2024 – August 2024

- Built a high-performance 9.9-liter personal computing workstation for simulation and transformer model exploration.
- Conducted research into hardware size constraints, selecting components to maximize performance with strict spatial limitations.
- Achieved equivalent performance and thermals to a desktop mid-tower, integrating a 63-mm thick 3-slot GPU and an 8-core CPU into the case.

SKILLS

COMPUTING EXPERIENCE

Software Packages & Frameworks: Autodesk Alias, Autodesk Inventor, Autodesk Fusion, ANSYS FEA & ACP, Python (JAX), SSH, Wolfram Language, LaTeX, ZSH, PostgreSQL, HTML, CSS, Git

ADDITIONAL SKILLS

Proficient in Mandarin Chinese