

Lorenzo Shaikewitz

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Education

California Institute of Technology '23

Expected Major: Mechanical Engineering

Expected Minor: Control and Dynamical Systems

Key Courses

- Mechanics ('20 - '21)
- Thermal Science ('20 - '21)
- Mechanical Machining (Fall '19)
- Mechatronics (Fall '19)

Relevant Experience

Researcher, Caltech AMBER Lab (summer '20 - present)

Designing a sleek powered ankle exoskeleton to reduce the energy cost of walking.

- Analyzed existing system's physics to optimize design and assist with control.
- Redesigned electronics mounting for modularity, efficiency, and user comfort with custom PCB.

Team member, Caltech Robotics Team ('19 - present)

- Developed a completely mechanical self-propelled torpedo and launch system.
- Designed an easy-access battery pod for the team's entry into the Robosub competition.
- Currently working on a miniature, self-guided torpedo system with autonomous navigation and data collection.

Skills

- Solidworks CAD software
- Programming (Arduino, C++, MATLAB, Python)
- 3D printing (PLA)
- PCB design (Altium)

Honors & Awards

Semi-finalist, Perpall Speaking Competition (Fall '20 - ongoing)

Amateur Radio License, Technician Class ('18)

Additional Activities & Interests

Test writer, Caltech Science Olympiad ('19 - present)

Wrote for detector building, regional and state competitions.

Team member, PARCSEC—Caltech Rocketry ('19 - present)

Working with the electrical team to design the launch valve control board.

Ultimate Frisbee ('19), Captain ('20 - present)

High School

Jordan Rocketry ('15), Captain ('16 - '19)

Designed and built model rockets with electronic payloads from scratch.

- Led design and programming of autonomous lander that won Battle of the Rockets competition.
- Competed against university teams to deploy a lander, take pictures, and transmit data.

Science Fair ('18)

Built a device that manipulated a falling rocket's parachute to guide its landing site.

Won grand award at regionals—attended the international fair.