

# Alan Deutsch

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## EDUCATION

Tufts University

Medford, MA

**B.S. in Mechanical Engineering**, 2025, GPA: 3.87 (Dean's List all semesters)

Spring 2024 Semester Abroad, University College London

London, UK

## PROFESSIONAL EXPERIENCE & LEADERSHIP

### NIO - ONVO

Shanghai, China

*Charging Performance Intern*

June 3, 2024 – August 30, 2024

- NIO is a Chinese premium EV manufacturer and pioneer of battery-swap technology.
- Worked on the L60, the first car of NIO's new family-oriented sub brand, ONVO.
- Created several Python Pandas data analysis tools, including a Tkinter GUI to read and interpret CAN charging data.
- Conducted thorough testing and analyses on L60 DC fast charging performance using CANalyzer and the tools I had developed, writing test reports and advising the design team on potential improvements to the charging strategy.
- Researched and wrote a report on simultaneous charging – the charging of multiple cars simultaneously by a single charger.
- Investigated the feasibility for the L60 to "trick" the charger into providing more power to the car than other cars in a simultaneous charging scenario, resulting in the conclusion that it is not currently feasible.

**Tufts Solar Vehicle Project (TSVP)** – <https://sites.tufts.edu/solarvp>

Medford, MA

*Mechanical Co-Lead*

May 2024 – Present

*Operations Lead*

September 2023 – May 2024

- Co-leading 30+ person mechanical team aiming to build a globally-competitive solar-powered car by July 2025.
- Using wet layup, resin infusion, CNC mold-making, and other composite techniques to manufacture the chassis, aeroshell, and canopy. Led the effort of transporting the molds (one 20' long) to and from the CNC shop.
- Designing (Onshape, Solidworks, Altair), prototyping, and fabricating (manual mill/lathe and outsourcing) components of the suspension, steering, and brake systems. Bench-testing components using mock MDF-chassis before final integration.
- Previously led sponsorship and media teams, guiding long-term strategy, communicating with university admin and existing sponsors, finding new sponsors, and keeping the team organized. Led efforts to raise over \$50000 since club's founding.
- Implemented Gantt charts, weekly check-ins, Notion, and delegated tasks – greatly improving team productivity.

**Tufts University CEOO (Center for Engineering Education and Outreach)**

Medford, MA

*Future Educational Technologies (FET) Lab Intern*

June 2022 – February 2023

- Developed a STEM educational framework making use of the LEGO Education SPIKE Prime development platform, Python, and Mind Render, a Japanese visual programming app.
- Led hackathons for middle school students and found positive educational outcomes of the framework.

### Tezign

Shanghai, China

*Data Analysis Intern - Strategy Department*

June 2020 – August 2020

- Analyzed user metrics and developed an online suite of tools using PHP, MySQL databases, and HTML/CSS to determine optimal customer leads, greatly reducing time spent sourcing leads.
- Self-managed project deliverables and communicated effectively with stakeholders in English and Chinese.

## SELECTED PROJECTS

**Lidar Cart** - <https://alandeutsch.me/lidar-cart/>: Designed, fabricated, prototyped, and tested a 3-wheeled push cart equipped with a camera, lidar unit, battery, and laptop for collecting data relevant to training autonomous vehicle detection algorithms. Employed extensive use of CAD (especially the Onshape frame tool), manual mill/lathe, and rapid prototyping techniques.

**TSVP Chassis** – <https://alandeutsch.me/tsvp-chassis/>: Led the effort to design, fabricate, and transport the mold for the chassis of our car employing my skills in logistics and planning, along with CAD and wood working.

**Claw Game** - <https://alandeutsch.me/claw-game/>: Designed, fabricated, and coded a 3-motor (side-side, up-down, open/close) mini claw game using CAD, laser cutting, and Python.

## SKILLS & INTERESTS

**Computer:** Fusion, SolidWorks, Onshape, KiCad, COMSOL, Drawings, FEA (SolidWorks), Typing (120 WPM+), Office, Adobe CC

**Fabrication:** 3D printing, laser cutting, water jet, welding, resin infusion, machine shop (lathe, milling, drilling, etc.)

**Coding:** Python, C++, PHP, SQL, HTML/CSS, MATLAB

**Languages:** Mandarin Chinese (fluent), German (proficient), Spanish (elementary)

**Hobbies:** film, music, reading, learning languages, violin, ultimate frisbee

Updated April 2025