THEODORE BATES

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EDUCATION			
	CARNEGIE MELLON UNIVERSITY	PITTSBURGH, PA	**MAY 2023**
	Bachelor of Science in Mechanical Engineering, GPA 3.9		
	HALDANE HIGH SCHOOL	COLD SPRING, NY	**JUN 2019**
	High School Diploma, GPA 98.8		

PROJECTS

BUILD18: RADIO CONTROLLED PLANE   **JAN 2020**
- Designed and manufactured RC plane out of foam, with laser cut parts for strength where necessary.
- Made use of hand calculations and look-up-tables to determine design.

ARDUINO CLAP LIGHTS   **DEC 2019**
-Clap on/clap off lights built to be installed on any conventional light switch.
-Wrote code for Arduino microcontroller to detect claps and filter out speech/other loud noises.

TRUSS DESIGN PROJECT   **SEP 2019**
- Designed and laser cut truss structure for Mechanical Engineering class to break between 38-42lb.
- 1st place strength to weight ratio out of 40+ teams.
- Employed CAD, Finite Element Analysis and hand calculations to simulate stresses.

HALDANE EXTENDED LEARNING PROGRAM (HELP)   **JUN – JUL 2018 & 2019**
Founder, Tutor
- Founded free 1:1 tutoring program for middle schoolers struggling in math.
- Collaborated with teachers to develop curriculum and refer students.
- Managed other tutors and interactions between organization and parents.

EXPERIENCE

CARNEGIE MELLON FIELD & PLANETARY ROBOTICS CENTERS   **SEP 2019 – PRESENT**
Research Assistant
- Developing and installing new hardware for Carnegie Mellon University's Zoë robot.
- Working on initial design stages of the upcoming Zoë 2 planetary rover.

CARNEGIE MELLON RACING   **AUG 2019 – PRESENT**
Structures Design Team Member
- Research and design for active aerodynamic systems for use in future generation racecars.

AB TECH   **AUG 2019 – PRESENT**
Tech-In-Charge, Sound Technician
- Work as a part of large and small teams in a professional environment that requires technical expertise and precision, especially with high profile events and tight deadlines.
- Lead AB Tech members for on some campus concerts and events as Tech-In-Charge.

CARNEGIE MELLON ROCKET COMMAND   **SEP 2019 – PRESENT**
Avionics Design Team Member
- Made CAD Assembly of Avionics for CDR Presentations for NASA USLI.

CUNY GRADUATE CENTER NEUROLINGUISTICS LAB   **JUN – AUG 2019**
Research Assistant
- Collaborate with researchers to develop repair techniques for EEG nets.
- Applied audio engineering experience to solve audio problems at the lab.

LEADERSHIP

STEM0516 4H CLUB   **SEP 2015 – JUN 2019**
President SEP 2016 – JUN 2019, Vice-President SEP 2015 – SEP 2016
- Organized club activities and managed club projects.
- Designed weather balloon payload to fly to the stratosphere. Tested parachute, camera, and recovery systems.

HALDANE TECH CREW   **SEP 2013 – JUN 2019**
Technical Director SEP 2017-JUN 2019, Sound Technician
- Directed operations for Theater Tech at Haldane High School. Often worked with Haldane Administration.
- Operated sound equipment and educated new members.

SKILLS
- SolidWorks, Python, Arduino, MATLAB, Microsoft Word, PowerPoint, Adobe Photoshop, Lightroom, Illustrator, Final Cut Pro X, QLAB.
- Professional Audio Equipment, Laser Cutter, 3D Printer, Shop tools, Power tools.

RELEVANT COURSEWORK
Fundamentals of Mechanical Engineering, Fundamentals of Programing & Computer Science, Exploring Civil and Environmental Engineering, Intro to CAD, Linear Algebra & Vector Calculus, Physics 1 & 2, Calculus 2.