

# Ethan C. Quan

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## Education

### **GALILEO ACADEMY OF SCIENCE AND TECHNOLOGY | SAN FRANCISCO, CA**

Jan. 2018 - Present

- Current junior; Class of 2021
- 4.0 GPA (unweighted)

## Extracurricular Activities & Experience

### **LEAD COMPUTER-AIDED DESIGNER (CAD), PROJECT MANAGER | GALILEO ROBOTICS (FRC 4669)**

Aug. 2018 – Present

- Created 3D designs and schematics for Galileo Robotics as a part of the FIRST Robotics Competition.
- Developed and modeled drivetrain, intake, feeder, and shooter subsystems used in Galileo Robotics' 2020 robot.
- Prototyped designs and fabricated parts out of HDPE, PLA, and aluminum using CNC and 3D printing technologies.
- Taught parametric-based 3D modeling (Autodesk Inventor), CNC, and 3D printing skills to new recruits.
- Competed in FIRST Robotics Competition as part of the drive team.

### **CAPTAIN, FOUNDER | GALILEO ROCKETRY (TARC 20-6661)**

Nov. 2019 – Present

- Founded Galileo Rocketry as a team in the American Rocketry Competition (TARC).
- Taught basic aerodynamic and rocketry concepts to nine new members of the rocketry team.
- Developed a custom rocket design using OpenRocket to reach competition goals and criteria.
- Built a solid-motor powered rocket capable of altitude calibration and reaching 800 feet while carrying a payload of an egg.

### **ASSISTANT MANAGER, FORMER RUNNER | GALILEO CROSS COUNTRY**

Sep. 2018 – Present

- Long distance (3+ miles) running and training after school throughout the fall season of 2018.
- Maintained a roster of 35 runners, including keep track of mileage and inventory.
- Planned and coordinated team events, fundraising, and school-wide events, such as the Fall Sports Banquet.
- Assisted with the city-wide cross-country races which included timekeeping, registration, and collection of runner tags.

### **AEROSPACE ENGINEERING | UCLA SUMMER ENGINEERING INSTITUTE**

Jul. 2019 – Aug. 2019

- Completed college-level course on the modeling, design, and construction of high-powered rockets.
- Learned basics of rocket flight dynamics, propulsion, and recovery.
- Implemented engineering design process; peer design review, feedback, iteration, and scale modeling.
- Custom rocket design and simulation; created 3D schematic using CAD (SolidWorks).
- Custom numerical approximation script in MATLAB to predict flight trajectory and characteristics
- Successfully launched and recovered a fully custom high-powered rocket to 2,500 ft. with integrated onboard avionics and camera.

## Skills & Abilities

### **PARAMETRIC BASED 3D MODELING AND DESIGN**

- Create parametric 3D models for drafting, display, or manufacturing by CNC or 3D printing.
- Proficient in Autodesk Inventor and Autodesk 123D Design; moderate knowledge of SolidWorks.
- 3 years of CAD experience.

### **3D PRINTING (FUSED DEPOSITION MODELING PRINTERS)**

- Prepare, print, and post-process 3D printed objects using FDM printing technology.
- Proficient in the use of PLA, ABS, and PETG plastic filaments.
- Proficient in the use of slicers, Ultimaker Cura and PrusaSlicer; and 3D printers, Prusa i3 MK3S MMU2 and Creality Ender-3.

### **CNC MACHINING**

- Prepare, cut, and post-process parts for 3-axis CNC milling.
- Proficient in the cutting parts out of plywood, MDF, HDPE, polycarbonate, and aluminum.
- Proficient with Carbide 3D Shapeoko.

### **PARTS MACHINING & POWER TOOLS**

- Proficient in the use of various equipment and power tools, such as arbor press, drill press, Dremel, belt sander, drill, and jigsaw.

### **PROGRAMMING**

- Basic knowledge of Python and MATLAB.