

# Ethan Carroll

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## EDUCATION

### HARVEY MUDD COLLEGE

*BS in Engineering*

Aug 2018 – Jun 2022 (expected)

Claremont, CA

GPA: [ ] / 4.0

### Saint Francis High School

Aug 2014 – May 2018

Mountain View, CA

GPA: [ ] / 4.0

Maximum Cum Laude

## RELEVANT COURSEWORK

### Engineering

- Special Topics
- Design and Manufacturing
- Systems Engineering
- Engineering Mathematics
- Experimental Engineering
- Continuum Mechanics
- Materials Engineering
- Advanced Systems Engineering
- Fluid Mechanics
- Digital Electronics and Computer Engineering

### Mathematics

- Calculus I
- Statistics
- Linear Algebra
- Differential Equations
- Multivariable Calculus

### Special Relativity

### Mechanics and Wave Motion

### Electricity and Magnetism

### Intro to Computer Science

## SKILLS

### Tools

SolidWorks CAD, Matlab, SystemVerilog, RISC-V, COMSOL, Arduino, GitHub, RStudio, LabView

AutoDesk Product Suite, Adobe Creative Suite, Microsoft Office, G Suite, iCloud services

### Programming languages

Python, Java, C, HTML, Swift, Kotlin

### Other concepts

CNC machining, circuit design, mobile app development

I am seeking an engineering internship for Summer 2021 in which I can improve my technical skills in designing and testing complex systems. I am most interested in [mechanical engineering, fluid mechanics, and \_\_\_\_].

## TECHNICAL PROJECTS

### Machine Learning Two-Factor Identification | [Date]

- Developed a wrist-worn system with a heart rate sensor and accelerometer.
- Used a neural network to verify identity using heart rate and gait characteristics.
- Achieved 95% identification accuracy.

### Autonomous Underwater Robot | [Date]

- Designed and built an autonomous robot to collect data in a pool and in a lake.
- Incorporated thermocouples, turbidity sensors, pressure sensors, gyroscopes, and accelerometers. Measured temperature, turbidity, and depth.
- Tools included COMSOL (fluid dynamics), Arduino, LabVIEW, and oscilloscopes.

### Diagnosed and Revitalized my Used Car | [Date]

- Purchased a used car in a state of disrepair and diagnosed various issues relating to the engine, transmission, brakes, and other complex systems.
- Repaired and restored the vehicle to perfect operating condition, having driven 10,000 miles since restoration without any critical failures.

### Cornhole Design Project | [Date]

- Designed and constructed a marketable cornhole launching device intended for the elderly and individuals with physical limitations.

### Hammer Design Project | [Date]

- Modeled a hammer using 3D CAD and machined it to a tolerance of 1/1000 inch.

## WORK EXPERIENCE

### Florin Marica Tennis Academy | Coach

June 2018 – August 2019 | Saratoga, CA

- Coached advanced junior players in clinics and in private lessons.
- Demonstrated leadership skills in motivating players to improve their stroke fundamentals and on-court competitive performance.

### Converge Media Ventures | Intern

June 2018 – August 2018 | Sunnyvale, CA

- Set up video cameras, mics, and studio lights for a technical telecom journal.
- Managed files and edited videos using the Adobe Creative Suite.

### Saint Francis High School Work Grant Program

September 2014 – June 2018 | Mountain View, CA

- Earned approximately \$60,000 of tuition credits over hundreds of hours.
- Directed facilities maintenance work and special events on campus.

## ACTIVITIES

### Claremont-Mudd Scripps Varsity Tennis Team | Member

- Dedicate 20+ hours/week of training for the #2 ranked Division III team.
- Division III NCAA Finalists 2019; SCIAC Champions 2019.