**Drew Mathews**
(650) 773-0215 | drewmathews12@gmail.com | LinkedIn | Portfolio | Portola Valley, CA

I am an engineer in my 20's looking to work on a meaningful project with considerate people. I stopped work at my last two roles to recover from Lyme disease and toxic mold exposure. In my free time, I love to ride my bike.

## EXPERIENCE

**Mechanical Engineer, Part Time** | January 2025 - Present
Arris Composites | Berkeley, CA

- Helping complete projects for bicycle spoke production

**Associate Mechanical Engineer |** August 2022 - March 2023
Mainspring Energy | Menlo Park, CA

- Collaborated on a small team to tackle a novel engineering problem: designing sealing rings made of graphite for the piston - cylinder interface in Mainspring's linear generator
- Designed ring installation equipment
- Created drawings and worked with a machinist to fabricate parts from steel, aluminum, and graphite

**Mechanical Engineer, Composite Development** | July 2019 - August 2020
Arris Composites | Berkeley, CA

- Pursued projects for the process research and development team at a growing start-up with the mission to cultivate a new method of manufacturing high performance composite parts
- Investigated manufacturing processes to yield desirable part qualities ranging from mechanical performance to aesthetics, specifically through PFMEA, vibration testing, and thermal analysis
- Presented sample parts and studies for C suite colleagues to share with investors

**Mechanical Engineering Intern** | Summer 2016 & Summer 2017
Arevo | Santa Clara, CA

- Advanced my engineering skills at a 3D printing start-up specializing in carbon fiber composite FDM
- My first summer, I designed and 3D printed a drone body from carbon fiber printing material, assembled the body with flight components, and flew it to create a video for investors to see. I also developed a tool to detect filament jams and breaks in the printers using a light sensor and an Arduino, and I worked with a machinist to make parts for a project aimed to increase print layer to layer strength.
- My second summer, another intern and I designed and prototyped a road bike frame from 3D printed carbon fiber tubes and steel lugs. We carried out CAD, FEA, material testing, and weekly design reviews.

## EDUCATION

**BS Mechanical Engineering, 2018**
Cornell University | Ithaca, NY

- Coursework: Analysis of Mechanical and Aerospace Structures, Statics and Mechanics of Materials, Mechanical Properties and Selection of Engineering Materials, Dynamics, Heat Transfer, Thermodynamics, Mechatronics, Fluid Mechanics, System Dynamics, Finite Element Analysis, Automotive Engineering, Product Design, Energy Systems, Communication for Mechanical Engineering Design and Innovation

## CERTIFICATIONS

**Geometric Dimensioning and Tolerancing Fundamentals** | November 2024
GD&T Basics - Engineer Essentials LLC | Online

## LEADERSHIP

**Cycling Mentorship Program Lead** | January 2024 - Present
Alto Velo Racing Club | Palo Alto, CA

- Created a mentorship program for my cycling team where I pair up riders to help them meet their goals

## SKILLS

CAD: Solidworks, Autodesk | FEA: ANSYS | CFD: ANSYS Fluent | Prototyping: 3D Printing, Shop Tools | Programming: Matlab, Labview | Bike Repair