

# Owen Dray

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## Education

### **Olin College of Engineering | Bachelor of Science in Mechanical Engineering**

GPA: 4.0/4.0 | Courses: Solid Mechanics, Introduction to Sensors and Measurement, Multivariable Calculus, Linear Algebra Dec 2023

### **Guilford High School | High School Diploma**

GPA: 3.9/4.0 | National Merit Scholar | AP Scholar

June 2019

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## Skills

**Software:** Solidworks, Siemens NX, Catia, Fusion 360, Matlab, Microsoft Suite, Confluence

**Analytical Tools:** HSMWorks, Mastercam, CAM, Rendering, Solidworks FEA, Failure Mode and Effect Analysis (FMEA), Topological Optimization

**Languages:** Python, Matlab, Java, LaTeX

**Shop Skills:** Mill (Manual/CNC), CNC Router, Lathe, Sheet Metal Brake, 3D Printer, Laser Cutter, Drill Press, Bandsaw

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## Experience

### **Tesla | Mechanical Engineering Intern**

January 2021 – April 2021

- Evaluated and tested multiple supplier's clinching technology for use on Tesla's drive inverter manufacturing line
- Created and implemented multiple test plans for drive inverter components
- Designed and manufactured a device for safe component testing and disposal on drive inverter manufacturing lines (Catia)

### **Formlabs | Mechanical Engineering Intern**

September 2020 – December 2020

- Designed and tested motor couplings to significantly reduce manufacturing cost and simplify sourcing
- Created a testing procedure to validate new components
- Designed a production component to be manufactured with using injection molding

### **Olin Formula SAE Electric Team | Mechanical Lead**

September 2019 - Present

- Optimized and manufactured sprockets and drive train plates for light weighting using FEA and Topological Optimization (CNC Mill)
- Led liquid cooling system design for motor and motor controller in Solidworks
- Engineered and fabricated drivetrain brackets using FEA to withstand over 10,000 newtons
- **Mechanical Lead (Spring 2020-Present)**
- Currently coordinating final vehicle construction and integration
- Managed advanced research projects and first year onboarding

### **Krengel Manufacturing | Mechanical Engineering Intern**

May 2020 – August 2020

- Designed fixture for CMM in Siemens NX to expedite dimensional accuracy testing of cast parts
- Developed go-no-go tool in Siemens NX for rapid on the floor testing of cast parts

### **Butterfly Network | Mechanical Engineering Intern**

June 2018 - August 2018

- Designed and manufactured a vessel for high pressure testing using Solidworks/CAM (CNC Mill, HSMWorks)
  - Manufactured network-controlled power supplies for quality assurance tests
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## Projects and Awards (see more at owendray.com)

**Quantitative Engineering Analysis:** Programmed emotion detection algorithm in Matlab using eigenvectors

**Modeling and Simulation of the Physical World:** Modeled battery powered electrical grid for city of Boston in Python

**Solid Mechanics:** Developed testing procedures for calculating stress and strain in different types of bread

**Personal:** Created an Arduino powered self-balancing robot

**Awards:** Eagle Scout, National Merit Scholar Semifinalist, AP Scholar