

# Dhruv Srinivasan

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## EDUCATION

### B.S. Mechanical Engineering; B.S. Physics

Expected May 2025

University of Maryland, College Park

GPA: 3.925/4.000

- Honors College: Design Cultures and Creativity, Undergraduate Quantum Alliance

## SKILLS

Design: Solidworks, Autodesk Inventor, Fusion 360, 3D Printing (FDM, SLA), VCarve Desktop (CNC)

Software: Qiskit, Arduino C, Java, Python, MATLAB, Processing, VEXCode C++, Vernier Logger Pro

## EXPERIENCE

### Maryland Robotics Center Autonomous Micro Air Vehicle Team

September 2021 – Present

#### *Lead Design Team Engineer*

- Evaluate different drone bodies, using Solidworks and basic FEA to experiment with different shapes, chord length, camber and wing position for the Vertical Flight Society DBVF Competition
- Design and build a 6ft diameter, 15lb drone capable of flying up to 150ft/s, ensuring components are optimized and structurally sound using FEA and CBD
- Model the drone using Solidworks, generating technical drawings and packages for manufacturing and design reports
- Create MATLAB scripts to graph and predict drone cruising speeds versus required current, generating motor, battery and electronic specification sheets

### Terrapin Works Design Team

January 2022 – Present

#### *Lab Manager, Rapid Prototyping Lab*

- Design and prototype an electromechanical cell for NIST capable of firing neutrons at a substrate
- Employ additive (FDM, SLA), and subtractive manufacturing (CNC, Laser Cutter) techniques to process client orders and prototype project components
- Slice 3D Printer orders using PreForm (FormLabs), Cura, PrusaSlicer, Markeforge
- 3D Scan and model objects using ROMEO Absolute Arm and Artec LEO

### Leatherbacks Open Combat Robotics Team

September 2021 – Present

#### *12lbs and 11lbs Category Member*

- Design in a team of five the University of Maryland's 12lb combat robot for regional competitions
- Computer Model each subsystem in Solidworks, using FEA to examine and improve each subsystem
- Perform stress, strain, and torque calculations to define robot constraints and guide material selection
- Fabricate and assemble 11lb internal robots in the Instructional Fabrication Lab

### FIRST Robotics Competition Team 1727

September 2017 – May 2021

#### *Team Vice President*

- Designed each year's 28" X 38" X 60" robot and assigned 25 members to develop each subsystem
- Computer modeled, prototyped, and fabricated components using 3D Printing, CNC Machinery and Laser Cutter
- Coordinated testing data from subsystem teams to redesign components, ensuring robot weight does not exceed 125lbs
- Created each season's technical binder and presented the robot to judges at competitions
- Raised \$13,000 annually through sponsorship letters and corporate presentations to operate the club

### VEX Robotics Competition Team 1727C

September 2017 – May 2021

#### *Team Captain*

- Designed and built each year's 18" X 18" X 18" robot in a team of 5 using VEX approved components
- Programed driver control and autonomous section code, employing the use of vision, potentiometers, ultrasonic range finders and light sensors in VEXCode C++
- Used robot telemetry to refine subsystems and tune PID control loops for drivetrain