

Dhruv Srinivasan

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EDUCATION

B.S. Mechanical Engineering

University of Maryland, College Park

Expected Dec 2024

GPA: 3.925/4.000

- Honors College: Design Cultures and Creativity

High School Diploma

May 2021

Dulaney High School

- National Technical Honors Society

SKILLS

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

Software: Arduino C, Java, C++, MATLAB, openProcessing, VEXCode C++, Vernier Logger Pro (Data Modelling)

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
- Conduct research on thermal imaging accuracy and methods for human tracking in deeply forested areas using a drone for the NIST First Responder UAS Triple Challenge

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
- Taught new members operation of fabrication tools and computer modeling on Autodesk Inventor
- 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
- Operated robot at competitions, fixing and replacing broken components from competition matches