Dhruv Srinivasan

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EDUCATION

B.S. Mechanical Engineering and B.S. Physics Expected May 2025
University of Maryland, College Park GPA: 3.93/4.00

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

Qubit by Qubit Introduction to Quantum Computing Expected April 2022
Womanium Quantum Computing Certification (QBronze) Issued July 2022

SKILLS

Software: Qiskit & Pennylane (Quantum Computing), Python, Java, Arduino C, MATLAB, Processing
Design: Solidworks, Autodesk Inventor, EAGLE (PCB Design), Fusion 360, 3D Printing (FDM, SLA)

EXPERIENCE

Fearless Optics, Quantum Engineering and Technology Laboratory College Park, MD
Undergraduate Quantum Computing Researcher September 2022 – Present

- Developing a quantum circuit in **Pennylane** to accelerate a solution to distributed multi-agent convex optimization problems by leveraging quantum gates

Underwriters Laboratories Fire Safety Research Institute Columbia, MD
Engineering Intern June 2022 – August 2022

- Analyzed STA and TGA experimental data using **Python** and Pandas here
- Tripped the sampling rate and accuracy of window breakage metrics during fire tests by using Python to analyze incoming accelerometer data via Serial Interface from an **Arduino** Uno
- Used **I2C and SPI protocols** to design circuit boards for accelerometer and humidity chips to interface with an Arduino Pro Mini for a custom, low power consumption hygrometer using **Autodesk EAGLE**
- Developed custom **PCB**s on firefighter helmets to measure firefighter heat exposure during rescues, interfacing with Arduino Yun for wireless communication
- Machine, wire, and construct Data Acquisition Racks to be mounted around large-scale fire burn apparatus's using **National Instruments Hardware**
- Use **LaTex** for technical reports, working collaboratively through **GitHub** and **GitBash**

Terrapin Works Design Team College Park, MD
Lab Manager, Rapid Prototyping Lab January 2022 – Present

- Interact with clients to determine their design needs, project scope, and timeline
- 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

Maryland Robotics Center Autonomous Micro Air Vehicle Team College Park, MD
Lead DBVF Design Team Engineer September 2021 – Present

- Responsible for a team of 10 in the development and manufacturing of a 15lb, 6ft diameter tailsitter drone capable of flying up to 150ft/s
- Ensure 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
- Coordinate with the Analysis and Software sub-teams, using project management tools to coordinate timelines, assign member responsibilities, and document vehicle development
- Develop **MATLAB** scripts to graph and predict drone cruising speeds versus required current, generating motor, battery and electronic specification sheets
- Placed 2nd in the VFS DBVF 2022 Challenge here