# RISHABH JAIN

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## EDUCATION

**Carnegie Mellon University** May 2022
Bachelors of Science in Electrical and Computer Engineering, GPA: 3.8/4.0
Relevant Coursework: Fundamentals of Programming and Computer Science, Calculus in 3D

## RELEVANT EXPERIENCE

**Tartan Autonomous Underwater Vehicle**, *Electromechanical Engineer* Sept. 2018 - Current
Tartan AUV is a newly founded interdisciplinary team of undergraduate students developing an autonomous submarine to compete in the annual RoboSub competition.

- Developing and testing a computer model of the submarine using Solidworks
- Designing a custom real-time control board using Altium Designer

**Carnegie Mellon Racing**, *Logic Board Designer* Sept. 2018 - Current
Carnegie Mellon Racing develops a Formula 1 style electric racecar competing in various competitions across North America.

- Rerouting the brake light module to fit in the new form factor
- Integrating the new STM 32 microcontroller with the CMRduino development board

**Microsystems and MechanoBiology Lab**, *Undergraduate Researcher* Sept. 2018 - Current
The MMBL at Carnegie Mellon University studies form and function in micro and nanosystems developing mechanical systems, including sensors and actuators, that exhibit extreme mechanical properties.

- Exploring the basics of DNA origami techniques by constructing DNA single-stranded tiles (SST)
- Creating a mathematical model using Python predicting mechanical properties based on DNA helix modifications
- Assisting in microswimmer mechanical design optimization by designing custom DNA SST links of controlled length, diameter, and stiffness

**CyberPatriot Team n0passwd**, *Team Captain and Linux Expert* Sept. 2014 - May 2018
A cybersecurity competition in which teams are tasked with securing the network and computers of a small company

- Led my rookie team to achieve Platinum (Top 30%) Status all four years we have competed
- Taught and mentored basic Linux system hardening to underclassmen
- Created scripts using Bash to automate some processes that are required in the competitions to allow more time for the harder vulnerabilities
- Solved forensics challenges which required a novel understanding of the Linux command line interface and operating system

**Vitreous State Laboratory**, *Research Laboratory Intern* June 2017 - Aug. 2017
Research at The Vitreous State Laboratory (VSL) covers various areas of materials science from nanoscale research to large-scale production techniques.

- Analyzed samples using the Scanning Electron Microscope (SEM)
- Developed a reusable water quality sensor platform capable of detecting heavy metal ions

**SySTEMic Solutions VEX IQ Summer Camp**, *Lead Programming Instructor* Aug. 2016
One week camp for elementary school students for building and programming a VEX robot.

- Created and taught interactive lessons on the basics of robot programming using RobotC
- Maintained a classroom environment with 30 elementary school students

## VOLUNTEERING

**Kiwix by Wikimedia CH**, *Web Developer* Oct. 2016 - Mar. 2017
Responsible for setting up and maintaining a web store for Kiwix. The revenues generated from the sales helped further Kiwix's mission of making knowledge more accessible to everyone.

## ACHIEVEMENTS

**Finalist**, *Intel International Science and Engineering Fair* May 2017

**Distinguished Honor in Technology**, *Optimist Club's Youth Awards of Excellence* Apr. 2017

**Grand Prize**, *Fairfax County Science and Engineering Fair* Mar. 2017