RISHABH JAIN

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EDUCATION

Carnegie Mellon University May 2022
Bachelors of Science in Electrical and Computer Engineering with an Additional Major in Robotics, GPA: 3.8/4.0
Technical Skills: Python, OpenCV, ROS, C, Solidworks, Linux Administration, Rapid Prototyping
Relevant Courses: Principles of Imperative Computation, Concepts of Mathematics

EMPLOYMENT

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.

- Creating a mathematical model using Python predicting mechanical properties based on DNA helix modifications
- Analyzing and classifying simulation results based on desired mechanical properties for nano constructs
- Awarded a summer research grant for developing a computer vision data analysis system for microswimmers

EKTO VR, *Mechanical Engineering Intern* May 2019 - July 2019
EKTO VR is developing a mobility solution that virtually transforms 10 by 10-foot spaces into limitless worlds for the over 10 million users in the $3B Virtual Reality market.

- Designing and manufacturing a lighter, smaller, smoother, and more efficient holonomic drive mechanism
- Fabricating and testing drive system components utilizing rapid prototyping principles

Vitreous State Laboratory, *Research Laboratory Intern* June 2017 - Aug. 2017
Experimental and theoretical research at The Vitreous State Laboratory (VSL) covers various areas of materials science from cutting edge nanoscale research with the state-of-the-art facilities to large-scale production techniques.

- Analyzed samples using the Scanning Electron Microscope (SEM).
- Researched applications of volcanic natural glass for nuclear waste vitrification.
- 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

ACTIVITIES

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.

- Creating and testing a computer model of the submarine using Solidworks
- Fabricating and assembling the AUV and test environments
- Developing computer-vision software for tracking path markers aiding with the AUV's navigation

Cyberpatriot Team n0passwd, *Team Captain and Linux Expert* Sept. 2014 - Mar. 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 Bash scripts automating system hardening allowing time for solving harder vulnerabilities
- Solved forensics challenges which required a novel understanding of the Linux command-line interface and operating system

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