

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, Functional Programming, Introduction to Computer Systems

EMPLOYMENT

Carnegie Mellon University, Undergraduate Researcher, Pittsburgh, PA

Sept. 2018 - Current

The Microsystems and MechanoBiology Lab 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, Pittsburgh, PA

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.

- Designed and manufactured a lighter, smaller, smoother, and more efficient holonomic drive mechanism
- Fabricated and tested drive system components utilizing rapid prototyping principles

The Catholic University of America, Research Laboratory Intern, Washington D.C.

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, Tysons Corner, VA

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

Top 10 Hack, Best Hardware Hack, Best Health Hack, PennApps XX Hackathon @ University of Pennsylvania Sept. 2019

Summer Undergraduate Research Fellowship, Carnegie Mellon University

May 2019

Finalist, Intel International Science and Engineering Fair

May 2017