RISHABH JAIN

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EDUCATION

Carnegie Mellon University   May 2022
Bachelors of Science in Mechanical Engineering with an Additional Major in Robotics, GPA: 3.8/4.0
Relevant Courses: Principles of Imperative Computation, Fundamentals of Mechanical Engineering, Calculus in 3D
Technical Skills: Python, OpenCV, Solidworks, Linux Administration, Rapid Prototyping

RELEVANT EXPERIENCE

Tartan Autonomous Underwater Vehicle, *Mechanical 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 and fabricating low-cost underwater manipulators for shooting torpedos and dropping markers

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
- Developing a low-cost, computer controllable, cell stretching mechanism for imaging nanoscale strain sensors

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) and X-Ray Diffractometer (XRD)
- Developed a nanoscale 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