Jonathan Distler
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Education

Bachelor's Degree in Science, Cornell University; Ithaca, New York
Expected Graduation: May 2027
Major: Mechanical Engineering
Minor: Physics
GPA: 3.62
Selected Coursework: Electricity and Magnetism Honors, Dynamics, Statics and Mechanics of Solids, Thermodynamics, Differential Equations, Lasers and Photonics, Special Relativity, Independent Research

Experience

Magpie Aerospace Engineering Project Intern *January 2024-Present*
Cornell University Aerospace Adversary Lab; Ithaca, New York
-Cooperating with a large team of co-workers to facilitate multi-disciplinary aerospace and cybersecurity projects, funded by the US Department of Defense
-Applying SITL, ROS 2, Gazebo, C++, and Python to develop procedures within aerospace simulations to avoid obstacles with an autonomous 6-degree-of-freedom drone to test obstacle avoidance methods readily
-Setting up an indoor GPS system coupled with ROS 2 to serially communicate with a group-developed drone and allow for accurate indoor remote control with a mapping accuracy of up to 2 cm
-Successfully co-authored a systems paper for autonomous drones, which was submitted to a journal

Cornell Hyperloop Project Team Member September 2024-Present
Cornell University Hyperloop Project Team; Ithaca, New York
-Working as a part of the structures subteam to coordinate the development of a magnetic-levitation system for use in a high-speed hyperloop train propulsion
-Modeled the heat transfer delivered to the hyperloop train via the battery packs, and determined the rate of heat exchange for a 240 W battery system
-Modelling the impulses delivered to the battery pack system due to braking and track deviations, to judge the success of the battery pack enclosure system
-Successfully developed a battery pack enclosure system minimizing cost (~$200), safely protecting over $2,000 worth of electronic components, and allowing for easy access

Human-Drone Interaction Research Intern *December 2023-June 2024*
Virginia Tech Department of Mechanical Engineering; Blacksburg, Virginia
-Co-developed a conceptual framework for a mass drone delivery system to address food insecurity within rural communities
-Co-authored a paper accepted and presented at the IEEE Region 8 MIPRO Conference (Exploring the Utilization of Drone Technology to Promote Food Security)

Biomechanical Engineering Project Intern *June 2024-August 2024*
Virginia Tech Department of Mechanical Engineering; Blacksburg, Virginia
-Created an H-Bot control system to time-stamped ultrasound images of octopus movements using Matlab and Serial Communication techniques to have more accurate surface scans of soft tissue
-Successfully developed a novel soft robotic muscle prototype capable of expanding and contracting to intended diameters and lengths, using material property analysis as part of a research team
-Successfully developed a software program to model the muscle's movements using Java

Computer Science Genome Data Analysis Intern *May 2022-September 2022*
Virginia Tech Department of Computer Science; Blacksburg, Virginia
-Created an interactive Python notebook that used JSON and API to retrieve expansive datasets
-Leveraged the data to show data trends among the 500 fastest benchmarked computers in the world
-Used data analysis skills I was able to derive data and trends from pulled data sets and successfully published findings (CS Genome Project)

Stormwater Maintenance Assistant Manager *August 2019-August 2024*
Storm Water Solutions; Blacksburg, Virginia
-Utilized civil and environmental engineering techniques to preserve bioretention ponds and prevent flooding at a local level, as a part of Blacksburg Town Council's Stormwater Initiative.
-Implemented changes to prior bioretention ponds to successfully pass all town-sanctioned inspections.