Paul Nadan

Aerospace Engineering and Robotics

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EDUCATION

OLIN COLLEGE OF ENGINEERING, Needham, MA

May 2020

- BS in Engineering: Aerospace
- Current GPA: 3.92
- Relevant coursework includes: Modeling and Simulation, Introduction to Sensors and Instrumentation, Quantum Physics, Quantitative Engineering Analysis I and II, Principles of Engineering, Fundamentals of Robotics, Mechanics of Solids and Structures, Partial Differential Equations, and User-Oriented Collaborative Design

EXPERIENCE

STUDENT RESEARCHER, Olin Mechanical Engineering Department

Sep 2017 - Present

- Designing under-actuated perching landing gear for drones to grip branches and rough terrain
- Initially developed a hybrid empirical-numerical computational model for grasping forces and kinematics
- Currently performing MATLAB simulations to optimize future iterations of the landing gear design
- Presenting results at the ASME 2018 International Mechanical Engineering Congress and Exposition (IMECE)

IARC LEADERSHIP, Olin Aero Club

Sep 2017 - Present

- Launched a new team to compete in the International Aerial Robotics Competition
- Built and programmed a fully autonomous aircraft to track and interact with multiple ground vehicles
- Competing to accomplish unsolved challenges in navigation, obstacle avoidance, and interaction with moving objects
- Designing code architecture and writing algorithms for machine vision, robot localization, and behavioral robotics

INTERN, Jet Propulsion Laboratory

Summer 2018

- Development of a folding quadrotor capable of midair deployment after a ballistic launch
- Independently designed mechanisms using CAD software and integrated them into the overall design
- Collected experimental data and analyzed results with MATLAB to guide design decisions
- Fabricated prototype systems, diagnosed problems, and identified potential design improvements through field testing

CO-FOUNDER, Fishbox Games LLC

Oct 2016 – Feb 2018

- Co-developed *Project Airlock*, an innovative, space-themed social deduction game
- Founded the company Fishbox Games LLC
- Launched a successful Kickstarter crowdfunding campaign raising over $9,000
- Successfully coordinated manufacturing and shipping of games to backers

ENGINEERING INTERN, Eastman Chemical Company

Summer 2016 & 2017

- Research and scaling-up for new functional film manufacturing technologies
- Refined manufacturing process and designed and constructed prototype machines
- Prepared chemical solutions and performed experiments to optimize film properties

STUDENT RESEARCHER, Olin Robotics Lab

Oct 2016 – May 2017

- Programmed air and ground vehicles that work in coordination to extract lava samples from volcanoes
- Used ROS for robot software development
- Designed robotic submersible vehicles for underwater exploration

SOFTWARE LEAD, FIRST Robotics Competition

Sep 2012 – May 2016

- Founded a new FIRST Robotics Competition team
- Trained and coordinated team programmers
- Decided on team policies, strategies, and design choices
- Developed and prototyped robot designs and wrote and tested robot code

SKILLS

- **Programming**: Java, Python, C++, MATLAB, HTML/CSS/JavaScript, and Mathematica
- **Fabrication**: Mill, lathe, band saw, drill press, 3D printer, laser cutter, and soldering
- **Computer-Aided Design**: SolidWorks, OnShape