Paul Nadan

Aerospace and Robotics

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EDUCATION

OLIN COLLEGE OF ENGINEERING, Needham, MA *May 2020*

- BS in Mechanical Engineering
- 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, Small Satellite Laboratory, Transport Phenomena, and Mechanical 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
- Presented results at the ASME 2018 International Mechanical Engineering Congress and Exposition (IMECE)

STUDENT RESEARCHER, Olin Robotics Lab *Oct 2016 – May 2017, Sep 2018 – Present*

- Developing a six-legged robotic hexapod as a test platform for planetary exploration missions
- 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

IARC LEADERSHIP, Olin Aero Club *Sep 2017 - Present*

- Launched a new team to enter the International Aerial Robotics Competition
- Competing to accomplish unsolved challenges in swarm, human-robot, and head-to-head robot interaction
- Designing code architecture and writing algorithms for machine vision, robot localization, and behavioral robotics
- Previously built and programmed a fully autonomous aircraft to track and interact with multiple ground vehicles

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 constructed prototype machines
- Prepared chemical solutions and performed experiments to optimize film properties

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