Mark Dominic Yamarone

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Skills

Applications: SOLIDWORKS, MatLab, Microsoft Office, Creo Parametric, NX, ANSYS, Confluence, Visio
Programming: Python, C++, Java, HTML, Amazon Web Services, Unity
Manufacturing: Milling, Composite Materials, Design for Manufacturing, Soldering, PCB Design, Rapid Prototyping

Professional Experience

MORSE Corp – *Engineering Co-Op,* Cambridge, MA January 2019 – August 2019

- Designed structural components for unmanned aerial resupply drones in Solidworks.
- Created instruments to aid in the measurement and manufacturing of small batch plastics.
- Developed heating systems for high altitude operations.
- Made testing methods more reliable with automated and redundant systems.

Endeavor Robotics –*Systems Engineering Co-Op,* Chelmsford, MA January 2018 – June 2018

- Tested products for design confidence and requirement compliance for 5 product lines.
- Performed verification of robot performance in mobility, endurance, communications, and accessory interoperability at both system and component level.
- Collaborated with team on planning and proposal for a major development contract with the US Army.
- Designed a "Hardware-in-the-Loop" breakout system of chassis electronics for delivery to government customer.
- Developed a test instrument to measure and record robot speed from blank sheet to completion using Creo and Python tools such as Flask and Tkinter.

Hasbro Inc. – *Engineering Co-Op, Integrated Play,* Pawtucket, RI January 2017 – June 2017

- Engineered new play experiences for next-gen, connected toys using advanced technologies such as computer vision, virtual reality, and voice recognition; including speech based games for Amazon Alexa.
- Created mock ups of mechanisms for future animatronic toys using both machined and 3D printed parts.
- Developed a VR integrated board game from concept to a viable product with a team of interns and presented project to upper management of Hasbro for further development.
  - Created demo VR environments in Unity using C#, and modeled a cost effective VR headset concept.

NASA JPL – *Eng. Undergrad Intern – ECOSTRESS,* La Cañada, CA May 2016 – August 2016

- Designed 10 data and power cables internal to the instrument as part of the project cabling team.
- Supervised manufacturing of 30 cables and routed cables on the computer model of the instrument in Siemens NX.
- Worked in a clean room environment with flight hardware including cables and satellite structures.
- Attended lectures and Q&A sessions with JPL engineers and scientists to learn about all aspects of the space industry.

Education

Northeastern University, G.P.A: 3.84 December 2019

Candidate for B.S. Mechanical Engineering, Minor in Electrical Engineering
Relevant Classes: Intro to Flight, Mechatronics, Fluid Mechanics, Systems and Controls
Activities: Wireless Club, Aero NU, NU Mars Rover Team, Pi Tau Sigma Honor Society, WRBB 104.9 FM

Engineering Activities

Northeastern University Mars Rover Team – *Systems Engineering Lead* 2018 – Present

- Designing a remotely operated planetary rover for a simulated Mars environment to compete in the University Rover Challenge.
- Defining system requirements and engineering a solution best suited to complete competition tasks including autonomous navigation, sample collection, and tool grasping.
- Managing the mechanical, electrical, and software design and integration of 4 subsystems.
- Creating custom circuit boards for motor control and data collection.

Aerospace NU – *Former Fixed Wing Project Lead* 2015 – Present

- Led the Fixed Wing team in creating a plane to compete in SAE Aero Design East 2019.
- Created CAD, defined system architecture, and led propulsion and controls teams to meet competition requirements.
- Managed project timeline using Gantt charts and project life-cycle milestones.
- Manufactured airframe using laser-cut pieces, COTS model airplane components and 3D printed hardware.

Northeastern Wireless Club – *Former Facilities Manager, Secretary* 2015 – Present