

EDUCATION

University of Maryland, Baltimore County (UMBC)
B.S. Mechanical Engineering: S-STEM Scholar, Meyerhoff Scholar

Expected Graduation: May 2020
4.0/4.0 GPA

EMPLOYMENT

MD Space Grant Consortium Summer Exchange Intern, Morgan State Base 11 May 2019 – Present

Project: Structural Design and Analysis for a Suborbital Liquid Propellant Rocket

- Established optimization criteria, completed initial sizing, and selected conceptual design configuration.
- Completed preliminary airframe and structural design and conducted aerodynamic and structural analysis.
- Wrote python script to enable liquid propulsion trajectory simulation in OpenRocket based on propulsion data.
- Created and printed a scaled additively manufactured conceptual design model for tangible design explanation.
- Presented research at the MD Space Grant Consortium Symposium and generated a technical report.

Department of Mechanical Engineering Teaching Fellow, UMBC

February 2018 – May 2019

Courses: Mechanics of Materials, Thermodynamics

- Assisted professor by leading weekly discussions and exam review sessions, conducting office hours, and grading assignments.

Research & Development Intern, Ingalls Shipbuilding

May – August 2018

- Designed tool to reduce manhours spent on installing a new ship technology. Drafted manufacturing drawings and submitted paperwork to have tool fabricated.
- Converted 2D drawings of various tools/equipment used in the shipyard for fabrication and reference purposes to 3D models in Autodesk Inventor.
- Assisted mentor in project management tasks which included monitoring progress, budget analysis, and risk assessment for a process improvement project funded by Office of Naval Research (ONR).
- Intern Challenge Project awarded with best idea by senior leadership. Led a team of four to research new technologies and develop an idea for an ONR funded project. Developed tasks for group members, assisted in writing white paper to submit to ONR, and presented the idea in front of a board of senior leadership.

Student Manager, Commons Operations Staff, UMBC

August 2016 – May 2018

- Assisted with event coordination efforts for UMBC sponsored events, worked with AV equipment, interacted with customers, and completed paperwork.
- Oversaw closing the Commons building, assisted in training new staff, tasked with “fill in director” responsibilities in the absence of a fulltime coordinator.

Architecture/Engineering Summer Intern, UMBC Facilities Management

May – August 2017

- Drafted mark ups on building floorplans using AutoCAD Architecture to support Project Engineers.
- Created and analyzed large space inventory data sets.
- Assisted in the development of project proposals which were submitted to university leadership.

PROJECTS

Design-Build-Fly (DBF), UMBC AIAA

September 2017 – Present

Wings Team Lead

Design-Build-Fly (DBF) is an international collegiate RC aircraft design competition. Competed in and attended 2017-2018 competition in Wichita, Kansas and 2018-2019 competition in Tucson, Arizona.

- Organized wings sub-team meetings, made final design decisions, contributed to technical report, and met with sub-team leaders to ensure successful integration.
- Designed wing geometry, structures, control surfaces, and conducted appropriate analysis.
- Managed and aided in wing component manufacturing and assembly and successfully completed flight testing.

Elevator (Machine Design), UMBC

February – May 2019

- Worked with team of 5 to design an elevator capable of lifting a four-pound weight in minimal time.
- Applied engineering analysis to optimize system and completed manufacturing and testing.

SKILLS

Software: SolidWorks, Autodesk Inventor, AutoCAD, Navisworks, MATLAB, Python, Microsoft Office

Machines: FDM 3D Printing, Laser Cutting/Engraving

ACTIVITIES & HONORS

President, UMBC American Institute of Aeronautics and Astronautics (AIAA)

Young Life Volunteer Leader