

Objective

To pursue a PhD and conduct research in the field of Aerospace Engineering and Space Systems.

Education

Michigan State University (August 2014 - May 2019), GPA: 3.76

- Major: Mechanical Engineering
 - Concentration: Aerospace Engineering
- Minor: Computer Science
- 191 total credits
- 3 graduate credits (ME 840 Computational Fluid Dynamics and Heat Transfer)

Professional Engineering and Research

MSU Smart Microsystems Laboratory Research Assistant (2016 - Present)

- Lab focus is in aquatic and bio-inspired robotics
- Research assistant role is to lead development of robotic systems to be used in graduate research
- Developed and constructed autonomous ROV (2016)
- Developed and constructed autonomous electrical motorboat (2017)
- Currently developing autonomous sailboat (2018)

Fraunhofer-MSU Center for Coatings and Diamonds CAD/Research Intern (2016)

- Lab focus is in the production, application, and use of synthetic diamond materials
- Intern role was to design and model research equipment, products, and facilities for MSU and Fraunhofer faculty and customers conducting research

General Motors Manufacturing Engineering Intern - Lansing-Delta Township Plant Paint Shop (2016)

- Nerve Center Manager - Oversaw the planning and construction of a quality control nerve center
- Defect analysis - Studied paint defects to debug and improve the operation of 56 new and 20 pre-existing topcoat paint application robots
- Assisted in maintaining operations of the paint and sealer application building

Engineering Teams

MSU Rocketry Team - Controls/Fins Lead (former), Founding Member (2017 - Present)

- Designed, modeled, tested, and studied fins and control surfaces
- Designed and built Class I rocket which placed 12th overall out of 129 Teams at the 2018 Spaceport America Cup
- Currently assisting in development of a hybrid rocket motor 3D printed-titanium oxidizer injector plate

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5 March 2019
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MSU Unmanned Systems Team - Co-Captain (2014 - Present)

- Have developed several weather and impact proof builds for UAVs
- Currently developing a hybrid fixed wing UAV with VTOL capabilities

MSU Formula Race Team, (2014 - 15)

- Chassis/aerokit team: helped to manufacture aluminum and carbon fiber parts

Farmington Unified Robotics Team #3414 (2012 - 14)

- Team leader: primary focus on mechanical build and recruiting
- Competed in the 2013 F.I.R.S.T. Robotics Competition World Championships

U.S. Army

Michigan Army National Guard (2015 - Present)

- 2-238th Aviation Battalion (2018 - Present)
 - Selected to commission as an Aviation Officer and UH-60 Black Hawk pilot in May 2019
- 1433rd Engineering Company (SAPPER), 507th Engineering Battalion (2015 - 19)
 - Served as Cadet shadowing Combat Engineer Officers

MSU Army ROTC (2015-Present)

- Cadet Operations Officer
 - 1 of 4 battalion cadet leadership positions
 - Responsible for planning and synchronizing weekly training for battalion of approximately 200 cadets
- Ranger 1 Recruit Training Officer
 - Responsible for planning and leading training, assessment, and selection of cadets wishing to join MSU ROTC's historic pre-ranger extracurricular unit

Sapper Leader Course graduate (2018)

- An elite Engineer Leader course designed to teach Soldiers technical skills while pushing them to their physical and mental limits
- Course includes 2 weeks of technical skills and 2 weeks of combat operations designed to stress and evaluate student leadership abilities
- Technical skills taught: air operations, waterborne operations, mountaineering, explosives, radio communications, foreign weapons systems, medical, survival

Air Assault graduate (2017)

- An 11-day course focused on helicopter operations
- Subjects include aircraft performance and capabilities, sling loads, and rappelling

German Armed Forces Proficiency Badge - Gold

- Awarded for completion of several testing events including physical fitness, medical, marksmanship, and CBRN

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Norwegian Foot March Badge

- Awarded for completion of an 18.6-mile foot march at a pace of no more than 14:30 per mile

Licenses and Certifications

FAA Private Pilot License (Airplane Single Engine Land)

- Authorizes an individual to fly a specified category and class of aircraft non-commercially
- Testing requirements include of meteorology, flight dynamics, aircraft instrumentation, aircraft mechanics, and laws and regulations
- Currently hold 80 hours of total flight time

FAA Remote Pilot License

- Authorizes an individual to fly UAVs for private and commercial purposes within the laws and regulations set by the FAA

FCC Amateur Radio Technician

- Authorizes an individual to transmit on modes, frequencies, and electrical systems as described by the FCC for Technician class licenses
- Testing requirements include electrical engineering calculations, transmission systems, radio wave propagation, transmission to spacecraft, and laws and regulations

Academically Supported Skills (with course number)

Python (CSE 231, CSE 331, ME 441, ME 464)

Excel (CSE 101, EGR 102)

C/C++ (CSE 232, CSE 320)

ANSYS/FEA (ME 475)

MATLAB (EGR 102, ME 810)

ARM Assembly (CSE 320)