

## Education

- Ph.D. Student, Electrical and Computer Engineering, Michigan State University (2022 - Current)
- GPA: 4.0
  - Distinguished Engineering Scholar
  - Advisor: Dr. Xiaobo Tan, Smart Microsystems Lab
  - Currently researching advanced control techniques for Martian rotorcraft.
- M.S. Aeronautical and Astronautical Engineering, Purdue University (2019 - 2020)
- GPA: 3.6
  - Major area of study: Astrodynamics and Space Applications
  - Minor area of study: Aerospace Systems
  - Curriculum included several term-long literature review and research projects including in-part:
    - *Spaceborn Receivers for use in Space Debris Tracking with GNSS Radar*
    - *Gravimetry in Space*
    - *Simplification of Intersatellite Range for Low-Low Spacecraft-to-Spacecraft Gravimetry*
- B.S. Mechanical Engineering, Michigan State University (2014 - 2019)
- GPA: 3.7
  - Concentration: Aerospace Engineering
  - Minor: Computer Science (Python, C/C++, ARM Assembly)
  - Professional Certification in Geospatial Technology

## U.S. Army

- Michigan Army National Guard, Grand Ledge, MI (2015 - Current)
- C Company MEDEVAC, 3-238th General Support Aviation Battalion (2022 - Current)
    - HH-60M/UH-60M Black Hawk medical evacuation pilot.
    - Platoon leader responsible for overseeing approximately 30 pilots, crew chiefs, and flight medics.
    - Duties include piloting, organizing training flights, and managing Soldiers during normal operations and during rotations to the Joint readiness Training Center and Camp Adazi, Latvia.
    - Served as the chief air operations controller for NATO Multinational Division North during exercise Griffin Lightning 2023, overseeing air assets for a division of nearly 20,000 multinational Soldiers.
  - C Company Air Assault, 1-147th Assault Helicopter Battalion (2018 - 2020)
    - Platoon Leader responsible for managing approximately 20 UH-60M maintainers and pilots.
  - 1433rd Engineering Company (SAPPER), 507th Engineering Battalion (2015 - 2018)
    - Assigned as a Cadet shadowing Combat Engineer Platoon Leaders.
- U.S. Army Aviation Center of Excellence, Fort Novosel, AL (2020 - 2022)
- Active duty UH-72A Lakota and UH-60M Black Hawk flight student.
  - Class leader in UH-72A course and team leader in Survival-Evasion-Resistance-Escape course.
- Michigan State University Army ROTC, East Lansing, MI (2015 - 2019)
- Cadet S3 Battalion Operations Officer in charge of planning and coordinating training for over 200 cadets.
  - Ranger 1 team Recruit Training Officer responsible for leading training in high-stress leadership tactics.

### Select Awards

Overseas Training Ribbon	(2023)
MI State Partnership Ribbon (Latvia)	(2023)
MI Outside United States Training Ribbon	(2023)
National Defense Service Ribbon	(2022)
MI Broadsword Ribbon	(2021)
Army Service Ribbon	(2019)
Distinguished Military Graduate	(2019)
NIU Unmanned Systems Award	(2019)
German Armed Forces Proficiency Badge	(2018)
Norwegian Foot March Badge	(2017)

### Schools and Courses

Fundamentals of Orbital Operations Course	(2023)
HAZMAT Transportation Certifier Course	(2023)
Medical Doctrine Course	(2022)
Space Force Capstone Publication Course	(2022)
Introduction to Space Course	(2022)
Advanced Airframe Qualification, UH-60M	(2022)
Initial Entry Rotary Wing Training, UH-72A	(2021)
Survival-Evasion-Resistance-Escape	(2021)
Sapper Leader Course	(2018)
Air Assault School	(2017)

## Employment

- GE Aviation Systems - Electrical Tester and Analyzer, Grand Rapids, MI (2019 - 2020)
- Responsible for testing, analyzing, debugging, and certifying production avionics under various environmental conditions.
  - Position required regular use of test equipment including temperature cycle chambers, X-ray microscopes, thermal imaging cameras, and oscilloscopes.
- MSU Smart Microsystems Laboratory - Research Assistant, East Lansing, MI (2016 - 2019)
- Assisted in research and development of robotic systems with unique control methodologies, particularly in the fields of soft robotics, bio-inspired robotics, and aquatic robotics.
  - Involved projects included a soft robotic glove and an autonomous active river drifter, motorboat, sailboat, and ROV.
- Fraunhofer-MSU Center for Coatings and Diamonds - Research Intern, East Lansing, MI (2016 - 2016)
- Designed and modeled research equipment, products, and facilities for MSU and Fraunhofer faculty and customers conducting research in plasma-applied diamond coatings.
- General Motors - Manufacturing Intern, Delta Township, MI (2016)
- Studied paint defects to define systematic issues in and explore solutions for a 76-unit robotic arm paint system.

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## Extra Curriculars

- MSU Rocketry Team - Founding Member (2017 - 2019)
- Lead investigator in development of an oxidizer injector plate produced with titanium additive manufacturing.
  - Lead design, simulation, and construction of carbon fiber fins on a Class I rocket.
  - Assisted in design and build of a Class I rocket which placed 12th overall out of 129 Teams at the 2018 Spaceport America Cup.
- MSU Unmanned Systems Team - Co-Captain (2014 - 2019)
- Assisted in the development of a hybrid fixed wing UAV with VTOL capabilities and an autonomous air-dropped ground vehicle.
  - Assisted in development of an autonomous quadcopter which competed in the AUVSI SUAS competition.
- MSU Formula Race Team - Chassis Team Member (2014 - 2015)
- Assisted in design, simulation, and construction of the carbon fiber vehicle chassis and aerokit.

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## Licenses and Certifications

FAA Commercial Pilot License (Rotorcraft with S-70 type rating)  
FAA Private Pilot License (Airplane Single Engine Land)  
FAA Remote Pilot License  
FCC Amateur Extra Class Radio License  
IPC Certified Specialist w/ J-STD-001 (electrical manufacturing) and IPC A-610 (electrical inspection)  
ACE Certified Personal Trainer  
SSI Open Water Diver

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## Publications

Schulman, P., Berndt, S.-H., Roman, C., Tan, X. (2023). CFD modeling and analysis of a martian rotorcraft with individual blade control. ASME Letters in Dynamic Systems and Control. Presented at the Modeling, Estimation, and Controls Conference 2023, Lake Tahoe, Nevada.