Isabel Moore

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EDUCATION

Texas A&M University

Master of Science in Computer Engineering, Focus on Robotics/Autonomy — Aug 2024 - May 2026

Bachelor of Science in Mechanical Engineering — Aug 2019 - May 2024

EXPERIENCE

Bush Combat Development Complex, Texas A&M — May 2024 - Present

Student Researcher | Coordinated Air-Ground Cooperative Autonomy Team

- Enhance mixed fleets of vehicle trajectory estimation with advanced sensor health awareness and resilience for multi-hypothesis tracking
- Develop algorithms to maintain sensor accuracy and system reliability under diverse environmental conditions.

Connected Autonomous Safe Technologies (CAST) Laboratory, Texas A&M — Sep 2023 – May 2024

Undergraduate Researcher

- Designed and validated of recovery algorithms in countering GPS spoofing attacks for advancement of GPS security and autonomous vehicle technology.
- Authored undergraduate thesis as part of Texas A&M LAUNCH Undergraduate Research Scholars Program.
- Poster presentation at Undergraduate Research Scholars Symposium, College Station, TX, 2024.
- Publication acceptance into Explorations: Texas A&M Undergraduate Journal, College Station, TX, 2024.

Southwest Research Institute, San Antonio, TX — May 2023 – Aug 2023

Fellow for UTSR Gas Turbine Industrial Fellowship Program

- Designed and modified microturbine for hybrid/electric UAV fuel system and instrumentation installation, translating CFD analysis results into practical design suggestions.
- Conducted analysis and characterization of combustor pressure distribution and fuel system due to preliminary testing results concluded in failure to light-off.

IT Security Operations, Texas A&M — Jan 2023 – May 2023

Cybersecurity Student Analyst

- Selected for Cybersecurity Apprenticeship Program (CAP) sponsored by Department of IT.
- Monitor and analyze security alerts and logs to identify and respond to potential security incidents.
- Conduct security assessments and vulnerability scans on university systems to identify potential security risks and develop mitigation strategies.

PROJECTS

US Army Moving Object Trajectory Estimation (MOTE)

- Cooperative autonomy by real-time sharing of obstacle and trajectory data between aerial and ground vehicles, optimizing navigation and mission execution in off-road environments.

GM-SAE AutoDrive Challenge™ II / Vehicle Dynamics & CANBUS Communication

- Senior design project for autonomous car competition sponsored by General Motors (GM) and Society of Automotive Engineers (SAE) International.
- Served as Technical Analysis Lead and Co-Team Lead to optimize lateral controller settings, enhancing vehicle stability and maneuverability in urban course.
- Presented vehicle dynamics and controls strategy at Concept Design Review, Ann Arbor, Michigan, 2024.

Microturbine for 7kW Power Generation in UAVs

- Fuel-to-electricity gas turbine generator developed to meet quiet, lightweight, and high-power goals.
- Poster presentation at University Turbine Systems Research (UTSR) and Advanced Turbines Program Review Meeting, State College, PA, 2023.

PUBLICATIONS

- (In Review) Using Sensor-Health-Aware Resilient Fusion for Localization in Presence of GPS Spoofing Attacks. IEEE International Conference on Cyber Security and Resilience (CSR), London, UK, 2024.

PROFESSIONAL SKILLS

- **Software:** ANSYS Fluent, SolidWorks, AutoCAD, ROS, RViz, Linux, Fusion360, Docker
- **Programming Languages:** Python, C++, LabVIEW, MATLAB/Simulink, Git