

# Isabel Moore

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## EDUCATION

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### 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

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### Texas A&M Engineering Experiment Station (TEES), Texas A&M

Aug 2024 - Present

Graduate Researcher

- Engineer remote control and monitoring systems for cross-operation between A&M and UMich's Mcity track.
- Integrate cloud infrastructure and tele-guidance for human interface and guidance in autonomous operation.

### Bush Combat Development Complex, Texas A&M

May 2024 - Present

Graduate Researcher | Air-Ground Cooperative Autonomy Team & Resilient, Real-time Networking Team

- Develop Kalman algorithms to enhance vehicle trajectory estimation and sensor resilience in mixed fleets.
- Drove control policy integration for Jackal robots, addressing system and network challenges for effective differential drive implementation.

### Connected Autonomous Safe Technologies (CAST) Laboratory, Texas A&M

Sep 2023 - May 2024

Undergraduate Researcher

- Designed and validated 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.
- 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

- 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

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### Meta Reinforcement-Learning based Contextual Adaptive-Control

Sep 2024 - Present

- Hybrid control approach that combines adaptive control with meta-learning, applied to dynamic non-linear systems, across simulations and real-world applications to enhance training model reliability.

### Mcity 2.0: NSF-Funded Next-Generation Autonomous Vehicle Testing

Aug 2024 - Present

- Integrate AWS and CARLA environments for real-time, cloud-based autonomous vehicle testing, including integration of real-time telemetry and diagnostic tools using Redis for enhanced vehicle trial analysis at Mcity.

### US Army Moving Object Trajectory Estimation (MOTE)

May 2024 - Present

- 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

Aug 2023 - Jun 2024

- Served as Team Lead and Technical Analysis Lead for a senior design autonomous car competition sponsored by General Motors and SAE International, optimizing lateral controller settings to enhance vehicle stability and maneuverability on urban courses.

## PUBLICATIONS

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- 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

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