Isabel Moore

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SUMMARY

Computer Engineering graduate student specializing in robotics, autonomy, networking, and controls. Seeking Summer 2025 internship with plans for full-time employment upon May 2026 graduation.

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

Texas A&M Engineering Experiment Station (TEES), Texas A&M — Aug 2024 - Jan 2025
Graduate Researcher

- Enabled seamless cross-operation between Texas A&M and UMich's Mcity autonomous vehicle track of testing ground truth data, simulation, and machine learning model prediction.
- Streamlined data pipelines for data preparation, model training, data augmentation, and model refinement.

Bush Combat Development Complex, Byran, TX — May 2024 - Jan 2025
Graduate Researcher | Air-Ground Cooperative Autonomy Team & Resilient, Real-time Networking Team

- Led development of differential drive control using reinforcement learning and neural network policies for Jackal robots, integrating Gazebo simulation results with real-world data testing.
- Diagnosed and corrected system errors by optimizing neural network weights and model parameters using TensorBoard, leading to 25% reduction in critic loss for better prediction precision.

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

- Designed and validated recovery algorithms to counter GPS spoofing attacks, enhancing GPS security and advancing autonomous vehicle technology, achieving path error to less than 3% in spoofing conditions.
- Authored undergraduate thesis on resilient fusion for localization under GPS spoofing attacks, accepted for publication at IEEE Cyber Security and Resilience Conference 2024.

Southwest Research Institute, San Antonio, TX — May 2023 - Aug 2023
Fellow for UTSR Gas Turbine Industrial Fellowship Program

- Redesigned microturbine for hybrid/electric UAV fuel system, aligning CFD analysis with physical test results from previous year to enhance design accuracy, achieving prediction alignment within 98.9%.
- Presented findings at conference of 200 attendees using combustion pressure distribution and fuel system analytics to develop and propose future design modifications.

IT Security Operations, Texas A&M — Jan 2023 - May 2023
Cybersecurity Student Analyst

- Monitored and analyzed around a dozen security alerts daily to identify and address potential incidents.
- Performed security assessments and vulnerability scans on university systems, identifying risks and implementing mitigation strategies.

PROJECTS

US Army Moving Object Trajectory Estimation (MOTE) — May 2024 - Sep 2024

- Engineered autonomous navigation system to optimize yaw control through live trajectory adjustments.
- Acheived significant reduction in yaw error from 180° to within 2-5° (97% reduction), improving off-road testing.

GM-SAE AutoDrive Challenge™ II — Aug 2023 - Jun 2024

- Led team of 6 on Vehicle Dynamics & CANBUS team, steering efforts as Technical Analysis Lead to refine vehicle path planning and securing 2nd place overall.
- Focused on optimizing lateral controller settings, enhancing vehicle stability and maneuverability by 70%.

PUBLICATIONS

- 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

- **Programming:** Python, C++/C/C#, Java, SQLite, Git, LabVIEW, MATLAB/Simulink
- **Software:** ROS, RViz, Gazebo, Linux, Docker, ANSYS Fluent, SolidWorks, AutoCAD