MUSCAT
Mason's UAV Systems Cyber Analysis Testbed

GMU-26-008

Coverage Modeling – Sensor Fusion – Placement Optimization

MUSCAT is a software system designed to help planners and security professionals understand how well different sensors—such as cameras, radar, or future acoustic sensors — detect small drones. The system permits users to virtually "place" different sensors to determine airspace coverage and show predictions for individual sensors or for multiple sensors working together, providing a clear picture of where drones are and where blind spots may exist. The simple, visual interface permits users to quickly experiment with different sensor types and positions.

The technology identifies optimal sensor placement based on objectives, such as maximizing coverage or improving resilience by ensuring multiple sensors cover the same area. It fuses data from different sensors—such as radar and optical systems—to extend detection capabilities, and it doubles as a training and experimentation tool for drone detection and terrain impact on sensing.

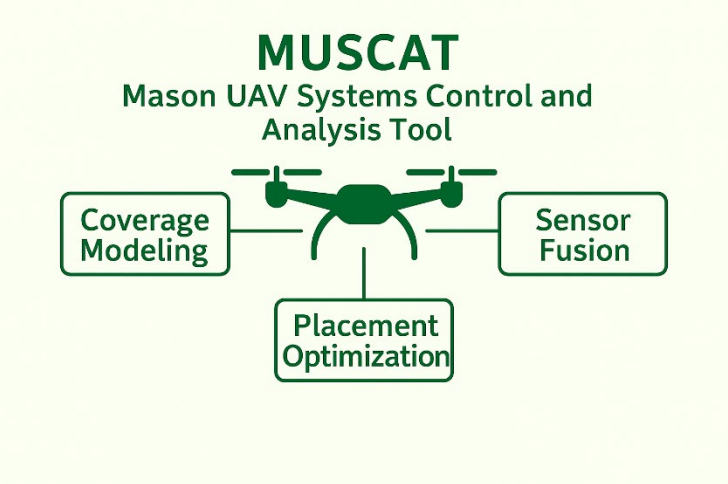
Features

- Customizable simulation environment
- Intuitive map-based interface
- Training and experimentation tool

Ideal Applications

Drone monitoring and airspace management. Organizations with planning and protection interests such as: Defense and Homeland Security organizations, NATO, and those who support planning protection strategies for drone corridors and building sensing infrastructure for security needs.

Stage of Development: Working Prototype



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