

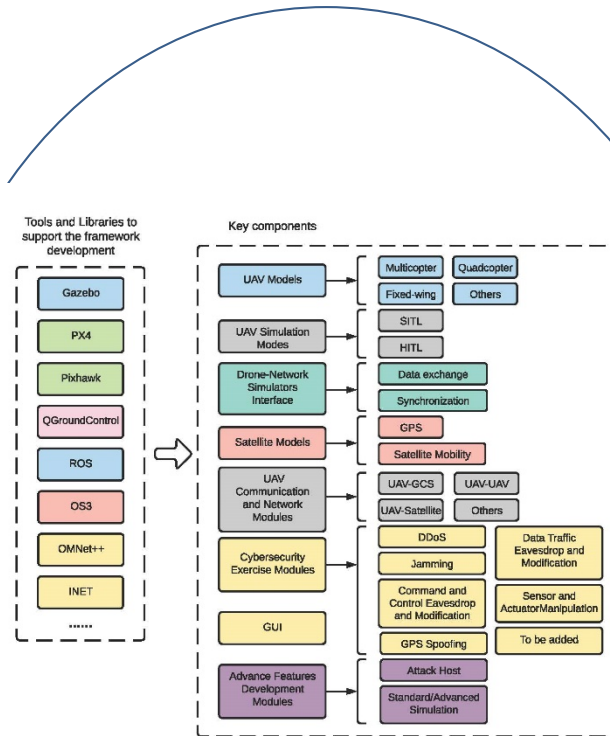
SaTC: EDU: Collaborative: Bolstering UAV Cybersecurity Education through Curriculum Development with Hands-on Laboratory Framework

Challenge:

- There still lacks curriculum materials on the cybersecurity of UAV.
 - Multi-disciplinary expertise is needed
 - The hands-on practice outcome (e.g., experiments) should be transferable and re-configurable at different institutions
 - The development of curriculum materials, especially for hands-on components, must follow the FAA regulations and state laws.

Solution:

- This project seeks to improve UAV and cybersecurity education through the development of curriculum materials and hands-on laboratory platform. Specifically, this will include the development of
 - 1) a set of cohesive course modules that systematically cover UAV cybersecurity topics;
 - 2) a UAV cybersecurity laboratory platform that provides a series of exercise modules and can be easily deployed;
 - 3) an open and collaborative UAV cybersecurity repository for educators, students, and researchers to discuss, collaborate, contribute, and share;
 - and 4) faculty development summer workshops for UAV cybersecurity education.



Overview of UAV Cybersecurity Laboratory Platform

Scientific Impact:

- This project is the first to provide education materials, including hands-on labs on UAV cybersecurity systematically.
- The intellectual merit of the proposed project lies in its development of the novel, effective, and engaging course modules on UAV cybersecurity.

Broader Impact and Broader Participation:

- The success of this project will produce the first systematic set of curriculum materials and hands-on laboratory platform for the education and training of UAV cybersecurity.
- The proposed course materials will advance the education of UAV cybersecurity and general cybersecurity at multiple universities.
- The UAV cybersecurity education workshop will especially encourage the participation of faculty from minority-serving institutions or institutions with limited cybersecurity education resources.