Program	Description	Status
Error-Frame Representation for Spacecraft Visual Relative Navigation	The main goal of this project is to develop a relative navigation system for spacecraft that utilizes optical sensor information. No training information or communication system between spacecraft is required, freeing the system from data transmission constraints and allowing relative navigation using non-cooperative objects.	Completed (2019)
Guidance Systems Initiative	Development of Navigation, Guidance and Attitude Control algorithms, targeted to be a tool used for systems analysis and architecture development leading to code generation. The work focused on algorithm development and simulated implementation validation work of those algorithms.	Completed (2021)
Multi-agent and Optimization Reasoner for Space Exploitation (MORSE)	The central objective of the proposed technology is to provide near optimal mission planning for autonomous multi-agents with uncertain and possibly untrustworthy data sources using a hybrid deep reinforcement learning-optimization approach.	Completed (2021)
Passive Navigation Using a New Strapdown Vector Gravimeter	An unmanned, passive, and free of GNSS or similar external reference aides, sensing system is proposed for navigation of mobile vehicles. The sensor involves a new low-cost, accurate gravimeter that provides micro-gravity measurements.	Active
Collaborative Autonomy and Resiliency for Distributed Satellites (CARDS)	The innovative aspects of the approach are the a priori decomposition of the problem into manageable components and a posteriori integration of those pieces using hybrid methods. While the architecture can be used for several different mission types, we will use Intelligence, Surveillance, and Reconnaissance (ISR) for this project.	Active