

AUTOMATIC INTELLIGENT SPACE DOMAIN AWARENESS

Multi-Source Reasoning for Space Domain Awareness

- Real-time sense-making from multi-source SDA data
- Reasoning about combined information and patterns across providers of data and analytics
 - Cross-phenomenology (EO, Passive RF, ...)
 - Level one analytics about maneuvers, no-shows, UCTs, CA
 - Space environment, public information, geo-political
- Demonstrated use cases
 - Co-orbital threat
 - Breakup detection
 - Space weather effects on spacecraft

Virtual Space Assistant

- Leverages existing AI technologies to bring everyday search and assistance functionality to space operations centers
- Makes use of the available data streams and services to answer questions and requests
- Initially focusing on two specific skills: Summary and Search
 - Summary creates an at-a-glance summary of key information about a given resident space object
 - Search takes an operator's query, searches across data and services, and ranks results
- The number and variety of skills exhibited by Virsa will continue to grow

Automated EMI Emitter Detection, Classification, and Localization

- Space-based and terrestrial sources of EMI
- Deep learning signal detection and classification
- Location estimation
- Utilization of satellite and terrestrial previous offenders list
- Automatic pattern finding
- Sophisticated pattern visualization tools

