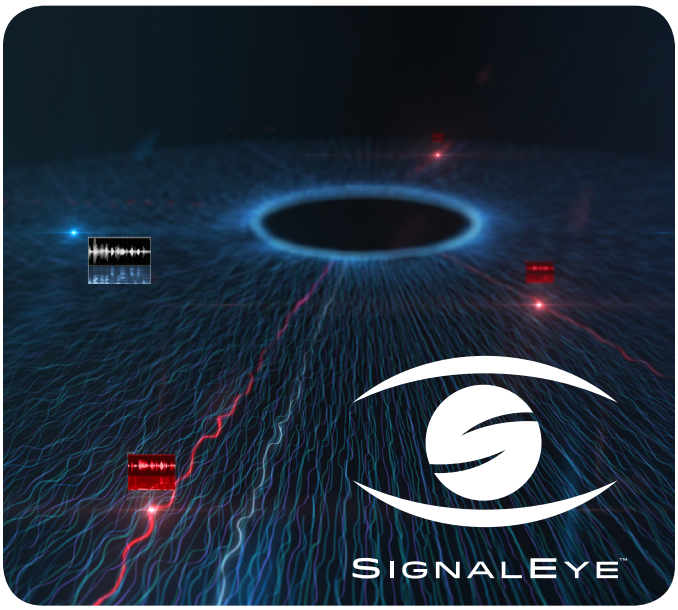
SignalEye™

Automated spectrum situational awareness



Machine Learning – signal classification using convolutional neural networks (CNN)

Data Driven – detection capabilities based on neural network training

Streaming – signal detection in streaming digital RF data

Software Only – solution runs on general purpose computer

Hardware Independent – RF front-end agnostic

Mission Independent – integrates with existing user-focused mission interfaces

Standards Based – supports VITA-49, VITA Radio Transport

Overview

General Dynamics' SignalEye™ solution provides spectrum situational awareness by automating the classification of signals through the use of machine learning. It provides tactical warfighters and security personnel with a timely, accurate view of the threat in the RF spectrum. It provides the strategic analyst the means to detect trends in the adversary's behavior.

SignalEye™ is a software solution that doesn't require specialized hardware acceleration. In a tactical context it deploys on a commodity hardware as an add-on to a RF front end system solution such as iRF's LiteRail™ or your existing front end. In a classified or unclassified Amazon cloud context it scales to process petabytes of data.

Features at a Glance

- Signal detection, isolation and classification
- Signal classification using Machine Learning
- Confidence Scores for signal classification results
- Stream-based and file-based processing
- VITA-49 format support
- Public API (C/C++, Python, Java, Scala)

Signal Types

- Frequency Modulation (FM)
- Quadrature Amplitude Modulation (QAM)
- Minimum-Shift Keying (MSK)
- Orthogonal Frequency-Division Multiplexing (OFDM)
- Amplitude Shift Keying (ASK)
- Frequency Shift Keying (FSK)
- Gaussian Minimum Shift Keying (GMSK)
- Phase-Shift Keying (PSK)

> *"I can finally process my enormous signal backlog and get some RF context for my missions."*

GENERAL DYNAMICS
Mission Systems

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