BLUE IQ

Machine Learning for High-speed, Real-time Data Analysis at the Edge

Features

- 99% target ID accuracy
- MISB standard KLV metadata tagging
- High-speed GPU computing
- Ruggedized for harsh ground and aerospace
- Low SWaP

The ever-increasing volume of data signals associated with ground stations or aerospace and ground vehicles has outpaced the ability to effectively analyze the information. These signals span the spectrum from video to radio frequency (RF) data and are becoming more complex, clogging already crowded communications pathways.
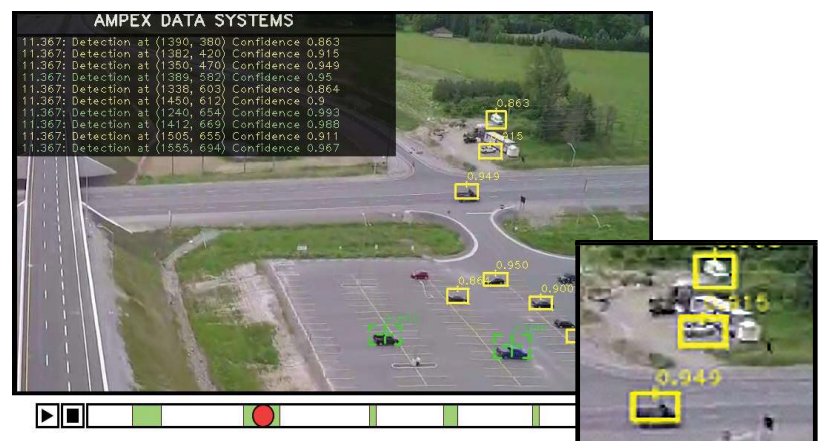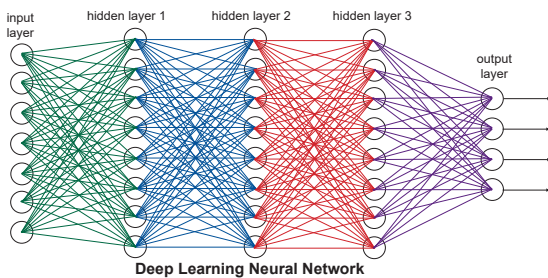
To help solve this problem, Ampex has developed BLUE IQ, a tool that uses machine learning (a subset of artificial intelligence) to provide cognitive data analytics at processing centers or at the point of data collection.

Deep Learning Neural Network

Benefits

- Automatic target ID and entity extraction from virtually any data type (video, RF, radar, etc)
- Real-time, large data set triage & analysis
- Auto-annotation and tagging of data
- Saves bandwidth by auto-downlinking data of primary interest, storing the rest onboard
- Automatic cueing for faster searches
- Reduces human analyst workload
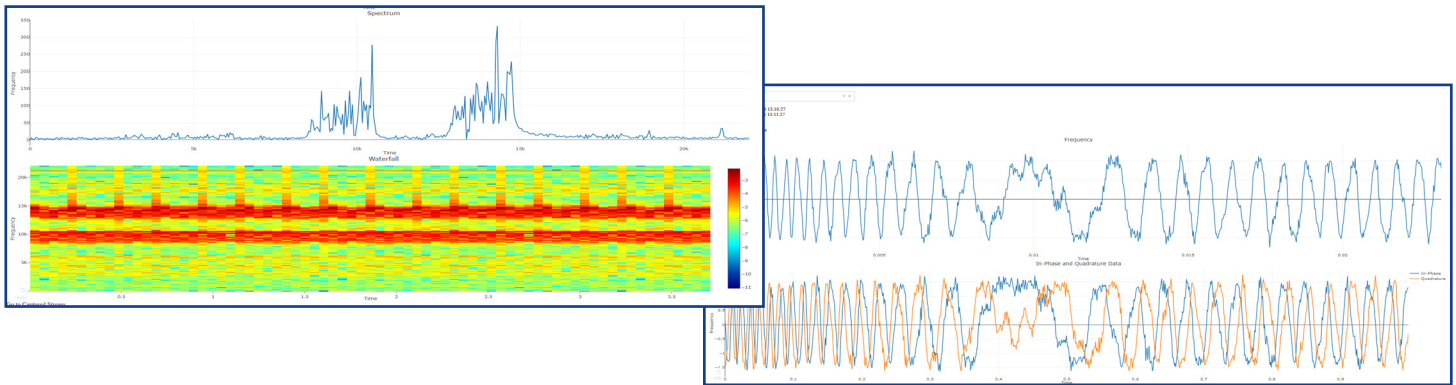
How It Works

Ampex works with customers to train its artificial neural network using samples of target data (images or signals). The result is a machine learning model with algorithms for tailored data analytics, BLUE IQ's engine. The engine resides in one of Ampex's proven, ruggedized data systems and is powered by graphics processing unit (GPU) computing. BLUE IQ's algorithms are also used to allocate GPU resources to optimize capability.The GPU power can be shared across multiple vehicles or processing nodes, each with a BLUE IQ unit, in a mesh network for maximum machine learning strength.

BLUE IQ identifies targets in a video stream

Typical Applications

- ID objects in full motion video (FMV)
- Enhance signal processing
- Sort flight test data signals

- Electronic intelligence analysis
- Communications intelligence analysis
- Electronic warfare

BLUE IQ identifies radio frequency signals of interest

**TuffServ 640
10 Gigabit
Recorder / Server**

**nano-R
Modular Data
Recording
System**

**TRS350 Ethernet
Data Recorder /
Server**

BLUE IQ runs on any one of Ampex's proven ruggedized data systems