

Introducing Brainlike Studio™: A Powerful Analysis Tool Kit for Real-Time Clutter Reduction



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Brainlike, Inc., proudly introduces a collection of monitoring process development and evaluation tools called [Brainlike Studio™](#). Brainlike Studio™ features new, so-called auto-adaptive detection (AAD) methods. AAD methods reduce clutter in real-time data by continuously adapting to changing conditions.

Monitoring processes produce automatic alerts from real time data. Monitoring process analysts develop, evaluate, and use monitoring processes to identify threats and opportunities. Brainlike Studio™ allows data analysts to develop and evaluate processes that can improve monitoring performance by reducing background clutter.

Defense, security, health, and business monitoring operations, ranging from military surveillance to financial management, identify threats and opportunities from cluttered data. Monitoring value depends directly on reducing clutter. Clutter in data hides threats, buries prospects, wastes time, clogs channels, saps energy, crams storage, and costs money. With clutter removed, anomalies stand out, decisions are clear, and costs are cut. Most monitoring operations would benefit from affordable clutter reduction. The world needs a better clutter cutter.

Brainlike sensing reduces clutter by automatically adapting to changing clutter conditions. Brainlike's auto-adaptive detection (AAD) processes improve alert sensitivity by continuously adapting — much like biological processes improve alert sensitivity by continuously habituating. By contrast, conventional monitoring produces alerts when monitored values exceed fixed thresholds. When background conditions change, fixed threshold alerts must produce many false alarms in order to sense subtle anomalies.

[Alternative methods](#) require detailed understanding of sophisticated mathematics. Brainlike Studio™ has been designed for effective use with much less training and effort. In some applications, Brainlike Studio™ can complement such methods by analyzing — and automatically adapting to changes in — features that are based on them. In other applications, Brainlike Studio™ can operate as a simpler, faster alternative.

The [Brainlike Studio™ Manual](#) includes details, examples, and illustrations of Brainlike Studio™ use, featuring the following three applications:



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- Monitoring undersea surveillance data for unexpected activity that could signal an underwater intrusion. Clutter in magnetometer data comes from baseline calibration drift and metal in non-target objects. Clutter in passive sonar comes from normal [marine activity](#). Clutter in active sonar data comes from [false echoes](#) bouncing off non-target objects. Auto-adaptive processes can use recent and correlated sensor readings to cut surveillance clutter, effectively and in real time. In the process, they can also reduce data locally, control alert transmission, and control the use of other sensing.
- Monitoring airborne camera or radar data that could signal the presence of clouds, ocean surface threats, or marine mammals. Clutter in airborne data comes from transmission noise, clouds, white caps, and glint. Auto-adaptive processes can use pixel readings from nearest neighbor windows to cut airborne monitoring clutter, effectively and in real time. In the process, they can also control remote sensing and transmission, thereby reducing telemetry and energy costs.
- Monitoring electricity meter data for unexpected activity that could signal a developing grid problem. Clutter in electricity meter data comes from widely varying electricity use during the day, from day to day, and during weather excursions. Auto-adaptive processes can use recent and correlated meter values to cut meter clutter, effectively and in real time. In the process, they can also impute deviant or missing values with accurate expected values, and they can accurately [forecast](#) future values.

Besides improving monitoring deployment, auto-adaptive processes reduce development time, effort, and [cost](#). For each of the above applications and more, analysts can quickly use Brainlike Studio™ to develop their own auto-adaptive processes.

For more Brainlike Studio™ information, see [Brainlike Products and Services](#).

