

JAST: quickly find repeated patterns in videos, images, sound, data, with no prior learning phase

Deep learning is powerful but implementation is complex and you must have many samples of what you're looking for. JAST's approach is complementary and opens up new applications where you need to identify patterns not known in advance.

DESCRIPTION*

- JAST automatically detects multiple repeating sequences of events (whatever their meaning) in complex and noisy data sets
- Based on a new neural network technology inspired by the Spike Time Dependent Plasticity (STDP) concept
- Patterns are learnt by less than 5 unlabeled presentations, e.g. a few milliseconds for a video
- Handle any kind of data: video, image, sound, signal, data, etc.
- Hardware-friendly algorithm (GPU, low-cost FPGA, ASIC)
- Can be used as smart pre-processing step to enhance other learning algorithms (classification, clustering, etc.)

EXAMPLE: a video camera fixed above a road autonomously learns to identify « cars » in less than 1 second.



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TECHNICAL SPECIFICATIONS

Target	Any CPU
Threading	Single, multi-thread possible

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COMPETITIVE ADVANTAGES

- Fully unsupervised learning
- Learn by only ~5 presentations
- Analysis in real-time
- Work on a smartphone processor
- Very robust identification
- Hardware-friendly algorithm

APPLICATIONS

- Video/Audio surveillance
- Autonomous vehicles
- Robotics, IoT
- Finance
- Health...

INTELLECTUAL PROPERTY

- Patents
- Software

DEVELOPMENT STAGE

- Technology validated at lab level



LABORATORY



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