



Prophesee releases OpenEB, the industry’s largest open-source Event-Based Vision software library, and new development tools for Event-Based Machine Learning

Industry’s most comprehensive development environment, Metavision Intelligence Suite, now provides key modules in OpenSource and extended support for Machine Learning to enable the fast-growing ecosystem of developers to adopt Event-Based Vision technology

PARIS – 31 March, 2021 – Prophesee today announced the release of OpenEB, a set of key open-source software modules and a set of new Event-Based Machine Learning solutions that are aimed at optimizing ML training and inference for event-based applications, including optical flow and object detection. In addition, the company is offering the industry’s largest HD Event-Based dataset to developers as a free download.

This latest release of the company’s Metavision® Intelligence Suite includes also adds an expanded set of development tools and software for designing industrial vision systems that leverage the performance and efficiency of Event-Based Vision. The suite now includes close to 100 algorithms, 67 code samples and 11 use-case specific application modules that accelerate the development process.

The open-source modules of OpenEB are available through Github and allow designers to build custom plugins and ensure compatibility with the Metavision Intelligence Suite for developing event-based systems. It provides a platform for developers to share software components across the machine vision ecosystem.

“We want to set an open technology standard in the machine vision ecosystem that enables new levels of accessibility and interoperability. As the leader and technology pioneer in event-based vision systems, our role is to help proliferate its use and make critical development aids, data and tools more readily available to product developers. Our approach provides the growing ecosystem around event-based technology with a rich open foundation and a strong development framework. This includes an extensive and reliable data that we have collected over several years, as well as application modules that leverage our expertise in a variety of specific uses to accelerate the development of customer-specific systems,” said Luca Verre, CEO and co-founder of Prophesee.

OpenEB offers a standard Event-Based data format for camera makers and their customers

The open-source model for the Metavision Intelligence Suite enables compatibility across the ecosystem of camera makers and their customers. By releasing a number of key modules under Open Source License, it accelerates the creation of custom plugins while ensuring compatibility with the underlying hardware from camera manufacturers.

Ushering in the Machine Learning era for Event-Based Vision

The development environment provides a complete platform for rapid development of machine-learning applications.

Beginning with access to the extensive and real-sequence data set Prophesee has created over the past four years, developers then use a variety of tools to guide the development of neural network models, run inference on event-based data for both supervised training tasks for object detection and self-supervised training for optical flow - all optimized for event-based vision. In addition, developers can easily create their own models or leverage their existing frame-based datasets and models, using the provided event-based simulator, and improve them with Event-Based Vision.



New applications enable critical manufacturing, logistics use cases

The Metavision Intelligence Suite adds new ready-to-use applications for key processes that can be enhanced with Event-Based Vision. These include:

- Particle Size Monitoring: Count and measure objects passing through a field of view at very high speeds (up to 500,00 pixels/second) with up to 99.9% counting precision in a production line to ensure better control of the process.
- Jet monitoring. Monitor the speed and quality of liquid dispensing in real time. Detect and count high speed jets, with unparalleled accuracy, support up to 500Hz jet dispensing, and generate alarms automatically when errors occur on the dispenser.
- Edgelet tracking. Achieve ultra robust 3D objects real-time tracking with low compute power by leveraging the low data-rate and sparse information provided by event-based sensors.

The latest version of the Metavision Intelligence Suite is available now. Go to <https://www.prophesee.ai/metavision-intelligence/> for more information.

Go to <https://www.prophesee.ai/2020/11/24/automotive-megapixel-event-based-dataset/> for information on downloading the event-based vision dataset.

About Prophesee

Prophesee is the inventor of the world’s most advanced neuromorphic vision systems.

The company developed a breakthrough Event-Based Vision approach to machine vision. This new vision category allows for significant reductions of power, latency and data processing requirements to reveal what was invisible to traditional frame-based sensors until now.

Prophesee's patented Metavision® sensors and algorithms mimic how the human eye and brain work to dramatically improve efficiency in areas such as autonomous vehicles, industrial automation, IoT, security and surveillance, and AR/VR.

Prophesee is based in Paris, with local offices in Grenoble, Shanghai, Tokyo and Silicon Valley. The company is driven by a team of more than 100 visionary engineers, holds more than 50 international patents and is backed by leading international investors including Sony, iBionext, 360 Capital Partners, Intel Capital, Robert Bosch Venture Capital, Supernova Invest, and European Investment Bank.