

Numenta Releases Software Platform for Intelligent Computing

A new technology modeled after the neocortex enables solving difficult problems in machine learning and pattern recognition

MENLO PARK, CA—March 5, 2007—Numenta today announced the availability of the Research Release of the Numenta Platform for Intelligent Computing (NuPIC), a new type of computing platform that provides a foundation to solve many difficult problems in computing such as machine learning and pattern recognition. Numenta's software platform is based on Hierarchical Temporal Memory (HTM) technology, which is modeled after the human neocortex. This release is designed to allow anyone to experiment with HTM technology, and ultimately to create and deploy powerful new computing applications.

“Coaxing computers to perform basic acts of perception and robotics, let alone high-level thought, has been difficult. No computer in the world today can recognize pictures, understand language, or move easily through a complex environment,” said Numenta co-founder Jeff Hawkins. “Numenta's platform offers the possibility to solve these problems, and to create entirely new types of applications that perform tasks no computer can today.”

NuPIC is based on a new type of memory architecture called Hierarchical Temporal Memory or HTM. Jeff Hawkins first discussed the biological basis of HTM in his 2004 book *On Intelligence*. Briefly explained, HTM technology builds models of the world using a spatio-temporal hierarchical memory architecture, similar to how information is learned and stored in the neocortex. These models can be used for inference and prediction to solve important, yet currently intractable problems.

“HTMs learn through observation, much like a child does,” noted Hawkins. “You don't program HTMs like you program a computer. Using software tools, HTMs are trained through exposure to sensory data. Their resulting capabilities are determined largely by the data to which the system has been exposed.” White papers on the theory and the technology, along with training materials for the platform, are available at www.numenta.com.

Hawkins founded Numenta in 2005 along with Dileep George, and Numenta CEO Donna Dubinsky. George's work in mathematics extended and validated Hawkins' biological theory. George continues to lead the effort to advance Numenta's learning algorithms.

NuPIC Research Release

Numenta is offering the Research Release of NuPIC under a no-charge license to developers, scientists, and engineers in order to encourage experimentation and development. The NuPIC release consists of a set of tools, a runtime engine, documentation, and examples. The release is available for Linux and the Mac OS, is written in C++ and Python, and source code for many of the components is available for inspection and modification. The Research Release may be downloaded from the Numenta website, www.numenta.com.

The Numenta website also features support tools for developers, including a forum, wikis, and a blog written by members of the Numenta team. Numenta is encouraging developers to become active participants, to share their work, to report bugs, and to contribute to forums. In addition, Numenta offers the Numenta Partner Program, a fee-based support program in which participants receive a high level of consulting and technical support.

About Numenta

Numenta was founded in 2005 by computer industry veterans Jeff Hawkins and Donna Dubinsky (founders of Palm Computing and Handspring), along with Stanford graduate student Dileep George. The Company has developed the Numenta Platform for Intelligent Computing (NuPIC), a next-generation computing platform based on the theory of the neocortex first described in Hawkins 2004 book *On Intelligence*. The term Numenta stems from "mentis," the Latin word for "mind". Numenta is based in Menlo Park, California.

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