COGNIMEM™ Technologies, Inc.

COGNIMEM™ LAUNCHES COGNIBLOX™ – A HIGH PERFORMANCE, STACKABLE MODULE FOR MASSIVELY PARALLEL PATTERN RECOGNITION TASKS

Highly Scalable, Memory-based Hardware Architecture Ideal for Cognitive Computing, Sensor Fusion, and Video Analytics

SEATTLE – November 10, 2011 – CogniMem™ Technologies Inc. (www.cognimem.com) today announced CogniBlox™, a memory-based parallel processing paradigm that architecturally implements how the human brain processes data, at SC11, the premier international conference of high performance computing at the Washington State Convention Center in Seattle, November 12-18, 2011.

The CogniBlox system can scale to very large arrays of cognitive memory providing a platform to deploy real artificial intelligence with practical speed performance and power consumption. Scaling is as simple as adding more CogniBlox boards to the system with no impact on its operation other than the availability of a larger bank of cognitive memories, making it a new contender for exascale computing.

"CogniBlox architecture is based on multiple CM1K (1024 neuron) components allowing for constant parallel matching of vectors in 10 microseconds regardless of the number of vectors being compared at the same time," said Bruce McCormick, co-founder, president and CEO of CogniMem. "Recent announcements from IBM about its DARPA SyNAPSE project have rekindled interest in this exciting technology. Based on multiple generations of IBM patented ZISC technology, we have perfected this approach for practical commercial use, providing unmatched performance at low power, and made it available now."

The CM1K chip implements RCE/RBF and k-nearest neighbor (k-NN) classifiers so is ideal for determining closest vectors in video searching, real-time surveillance and analytics, data mining, fingerprint matching, hyperspectral image analysis, financial services, weather forecasting, and a wide range of scientific computational tasks. Unlike traditional von Neumann techniques which have CPU/GPU-memory bottlenecks, synchronization and communication difficulties because of the serial access to memory, CogniBlox processes and accesses memory in pure parallel.

Product Detail

The CogniBlox system is composed of four CM1K chips or a total of 4096 cognitive memory processing elements per board in a trainable 3-layer network, each having 256 programmable 1-byte connections to the input. Systems of 1 million elements can be configured allowing for 256 million connections every 10 microseconds with a typical power consumption of 500 watts and 0.13 petaops[1] of performance. The

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[1] 0.13 petaops = 1000 x 1024 x 5(+) operations (compare, multiplex, subtract, accumulate, minus load & store, + search & sort) x 256 connections x 100K/ sec.

CogniBlox system is supported on Windows and Linux platforms using .NET and Java based tools for managing the simple commands for training and recognition tasks of the array. Hardware support for dynamic re-configurability and complete architectural flexibility for X, Y & Z scaling is also inherent in the CogniBlox architecture. Prices start at $3,000 for a single board CogniBlox, with volume discounts for the 1 million system (250 CogniBlox boards).

CogniMem will demonstrate the CogniBlox module, as well as the CogniMem CM1K chip from the company's neural network product line at SC11 in booth #4509 in the Washington State Convention Center, Seattle.

About Cognimem Technologies

CogniMem Technologies Inc., is a fabless semi-conductor company designing components for high speed and parallel pattern recognition. It is committed to providing truly parallel hardware based solutions towards solving AI and pattern recognition problems. Inspired by his invention of the technology and subsequent joint patent with IBM in 1993 (manufactured as the ZISC chip) CogniMem's Guy Paillet works alongside his co-founders, Anne Menendez and Bruce McCormick, to lead a team to develop the next generation of pattern recognition chips for sensory devices and cognitive computing systems. Today, CogniMem is manufacturing under license from IBM a powerful evolution of this technology with 1024 cognitive memories/neurons which is 20 times larger than the capacity of the ZISC chips. CogniMem's mission is to provide ICs, modules, development tools, and reference designs to help customers solve their difficult pattern recognition problems as part of their overall product offering. Learn more at www.cognimem.com

Media Contact

Meghan Fintland
Ogilvy PR
415 677 2704
Meghan.Fintland@ogilvy.com