Adapting to Thrive in a New Economy of Memory Abundance

Processing technology has eclipsed memory technology for the past six decades, but processor-centric architectures are reaching their terminal efficiency. We can reboot computing on the basis of abundant memory enabled by emerging device physics, which will make computation, communication, and memory more efficient. This approach also provides a unique opportunity to address novel security threats with modern, systemic solutions.

The end of scaling at just the wrong time ...

8B × 20B × 100B × 1T
People ➔ Mobile Devices ➔ Social Infrastructure ➔ Apps
Systems of Record ➔ Systems of Engagement ➔ Systems of Action

Graph analytics time machine
Massive memory and fast fabrics to ingest all data

What if we could pre-compute an almost infinite set of “what ifs”?
Optimization over a large search space in real time becomes realistic

Machine Learning that can keep up with the now
Training up-to-date deep neural networks in minutes, not weeks

Performance demonstration – similarity search
From offline to decision time

Performance demonstration – similarity search
Buying speed with persistent memory

Write code for our Fabric-Attached Memory Emulation for The Machine. The Fabric-Attached Memory Emulation is designed to get you started writing code for the Memory-Driven Computing architecture of The Machine on your laptop, before the hardware is even ready.
https://github.com/FabricAttachedMemory

IEEE Rebooting Computing Responds to White House Nanotechnology Grand Challenge: “Sensible Machines” That are Smaller, Faster, and Lower Power
http://rebootingcomputing.igoe.org/archived-articles-and-videos/general/sensible-machine

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