Qualcomm to Build Neuro-Inspired Chips

Massachusetts Institute of Technology

The world's largest smartphone chipmaker, Qualcomm [1], says it is ready to start helping partners manufacture a radically different kind of a chip—one that mimics the neural structures and processing methods found in the brain.

The approach is emerging as a way to enable machines to perform complex tasks while consuming far less power. IBM has been prototyping similar chips (see "IBM Scientists Show Blueprints for Brainlike Computing [2]," and the area is the focus of intense research around the world (see "Building a Brain on a Silicon Chip [3]" and "Intel Reveals Neuromorphic Chip Design [4]").

Speaking in a sponsored talk at *MIT Technology Review*'s EmTech [5] conference today, Qualcomm CTO Matt Grob [6] said that by next year his company would take on partners to design and manufacture such chips for applications ranging from artificial vision sensors to robot controllers and even brain implants. The technology might also lead to smartphones that can sense and process information far more efficiently.

Today's computer systems are built with separate units for storing information and processing it sequentially, a design known as the Von Neumann architecture. By contrast, brainlike architectures process information in a distributed, parallel way, modeled after how the neurons and synapses work in a brain.

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