MIT-Powered AI On Mobile Devices

Written by Marco Attard
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MIT researchers promise to bring brain-like intelligence to low-power mobile devices with Eyeriss-- a 168-core chip claiming to be 10 times as efficient as regular mobile graphics processors.

The Eyeriss chip is optimised for deep-learning, allowing it to handle tasks such as natural language processing and facial recognition without need to connect internet (the iPhone requires an internet connection to run Siri, for instance). Such functionality usually demands hefty amounts of processing power, but the researchers say the Eyeriss chip can bypass both size and power demands by giving each core own memory, reducing the need to exchange data with distant memory banks.

In addition the chip uses a circuit to compress data before sending it to individual cores, while neighbouring cores can share data without need for routing through main memory. Connecting all pieces together is special-purpose circuitry able to automatically distribute data across cores in the most efficient way before fetching more data from the main memory.

The Eyeriss chip is currently still in early prototype form-- but it already has been used to implement a neural network able to perform image-recognition tasks. The MIT team working on the technology also counts an Nvidia senior researchers among its number, meaning Eyeriss might become commercial reality sooner, rather than later.

Go Energy-Friendly Chip Can Perform Powerful AI Tasks