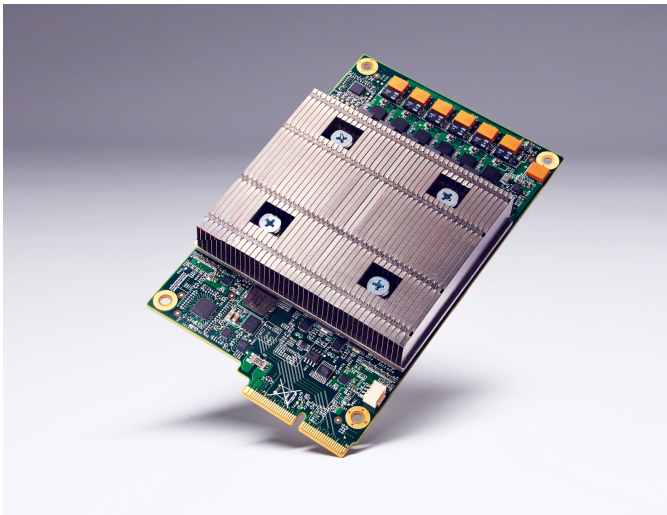


Google Reveals AI Chip at I/O

Written by Marco Attard
20 May 2016

Google I/O 2016 was about more than Android updates and [Amazon Echo rivals](#) -- the search giant revealed one of its mysterious custom-designed chips, specifically designed to power AI servers.



Dubbed a Tensor Processing Unit (TPU), the chip is the secret sauce behind AlphaGo, the machine able to beat professional human players at Go, the ancient Chinese board game. It also powers TensorFlow, the engine driving Google deep learning services used in anything from search to voice recognition and self-driving cars.

The technology started service in April 2015 to speed up the reading of street signs in the Google StreetView service. According to the company, the chip managed to process all text in the massive StreetView image collection in all of 5 days.

Unsurprisingly, Google does not offer much in terms of TPU hardware details, even if it open-sourced TensorFlow back in November 2015. All it says in terms of hardware is TPU boards fit in server HDD slots, and offer “an order of magnitude better-optimized performance per watt for machine learning” than either CPU- or GPU-based options.

“TPU is tailored to machine learning applications, allowing the chip to be more tolerant of reduced computational precision, which means it requires fewer transistors per operation,” a Google blog post reads. “Because of this, we can squeeze more operations per second into the silicon, use more sophisticated and powerful machine learning models and apply these models more quickly, so users get more intelligent results more rapidly.”

Google Reveals AI Chip at I/O

Written by Marco Attard
20 May 2016

Will Google do like Facebook and open source all its hardware designs? Probably not-- after all, the arms race for the finest and most powerful AI solutions remains a tight one, and while Google claims its solution is the best, God knows what rivals such as Microsoft have cooking in their secret vaults.

Go [Google Supercharges Machine Learning Tasks With TPU Custom Chip](#)