

Tiny Tensor Brings Machine Deep Learning to Micros

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<html> <p>We've talked about TensorFlow before; Google's deep learning library. Crunching all that data is the province of big computers, not embedded systems, right? Not so fast. [Neil-Tan] and others have been working on <a href=„<https://github.com/neil-tan/uTensor>“ target=„_blank“>uTensor, an implementation that runs on boards that support Mbed-OS 5.6 or higher.</p> <p>Mbed of course is the embedded framework for ARM, and uTensor requires at least 256K of RAM on the chip and an SD card less than (that's right; less than) 32 GB. If your board of choice doesn't already have an SD card slot, you'll need to add one.</p> <p>The project is under heavy development right now. You'll need to use the command line tools for Mbed and expect to spend a little time fiddling with things. The examples use a Nucleo F767ZI which requires an SD card breakout, but for about \$20 it might be worth starting with the same board the developer appears to be using.</p> <p>Of course, you can install <a href=„<https://hackaday.com/2017/04/11/introduction-to-tensorflow/>“>TensorFlow on a Raspberry Pi, too, but that's not really a proper microcontroller. It is really just a function of what your end goal is. It is easy to imagine a robot using an ARM for everything including high-level tasks like <a href=„<https://hackaday.com/2016/10/09/tensorflow-robot-recognizes-objects/>“>object recognition. That's assuming it has enough horsepower.</p> <p>By the way, our <a href=„<https://hackaday.com/2015/09/15/how-to-build-a-pocket-sized-mbed-signal-generator/>“>pocket-sized signal generator project used a K64F board that has an SD card slot and enough memory. That board might be a good target for uTensor.</p> </html>

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