

tensorflow.js at the edge

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oct 30th, 2018

overview

- **javascript: the once and future language**
- **what's happened the past few months**
- **tensorflow.js + cloudflare demo**

javascript

PYTHON



R



JAVA



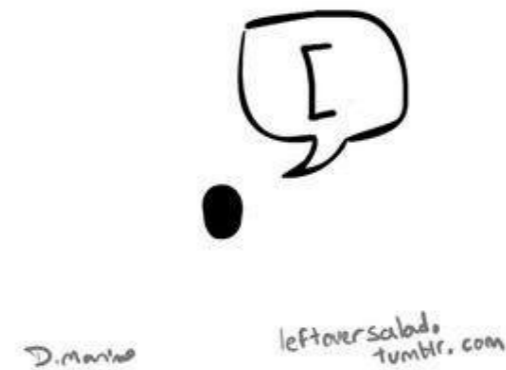
JAVASCRIPT



HASKELL



BRAINFUCK



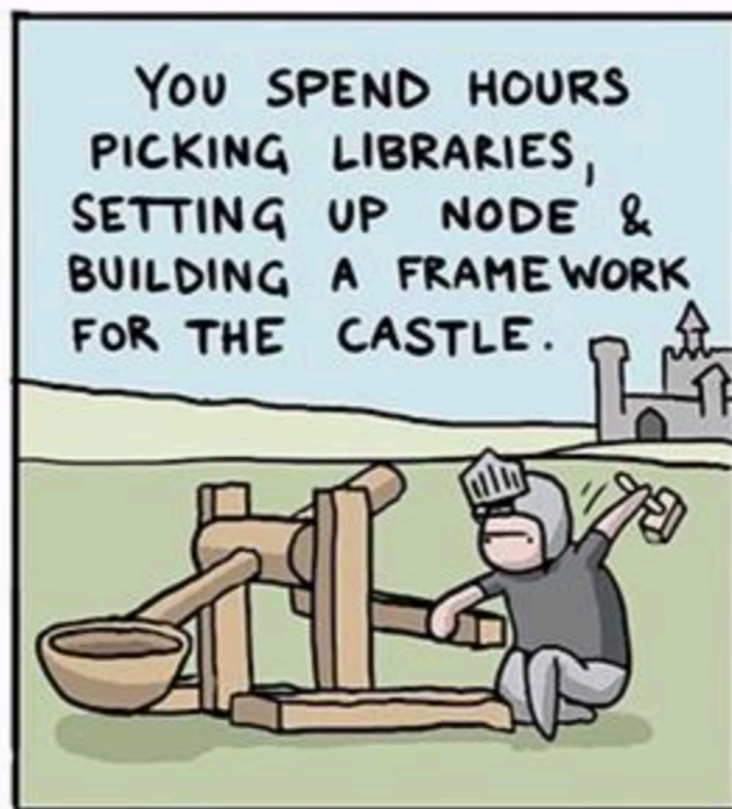
platform

- **0) cpu + tools (math)**
- **1) basic vm's (jupyter notebook)**
- **2) cloud software (unix)**
- **3) edge (mobile/embedded)**
- **4) custom hardware (fp16, int8, ...)**

GIT THE PRINCESS!

HOW TO SAVE THE PRINCESS
USING 8 PROGRAMMING
LANGUAGES

BY  toggl
Goon Squad



welcome to the jungle

- **no other language evolves at the speed of javascript**
- **my guesstimate: three months/ generation**
- **value of each new generation: $\text{rand}(n)$**
- **apple is ? 1 year generations ahead**

five easy pieces

- storage.googleapis.com/tfjs-examples/mnist/dist/index.html
- modeldepot.github.io/tfjs-yolo-tiny-demo/
- magenta.tensorflow.org/js-announce
- poloclub.github.io/ganlab/
- blog.mgechev.com/2018/10/20/transfer-learning-tensorflow-js-data-augmentation-mobile-net/

astronet

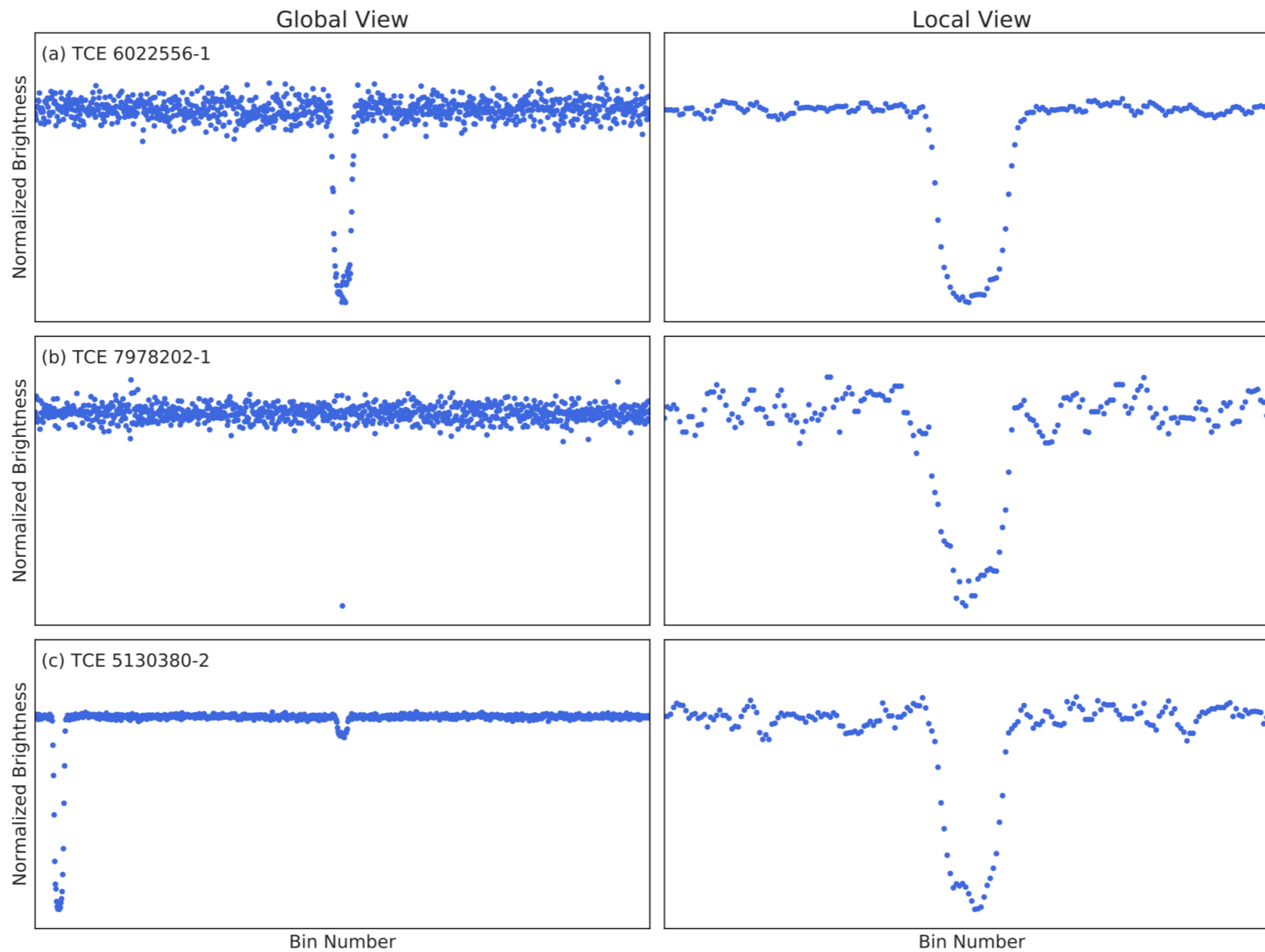
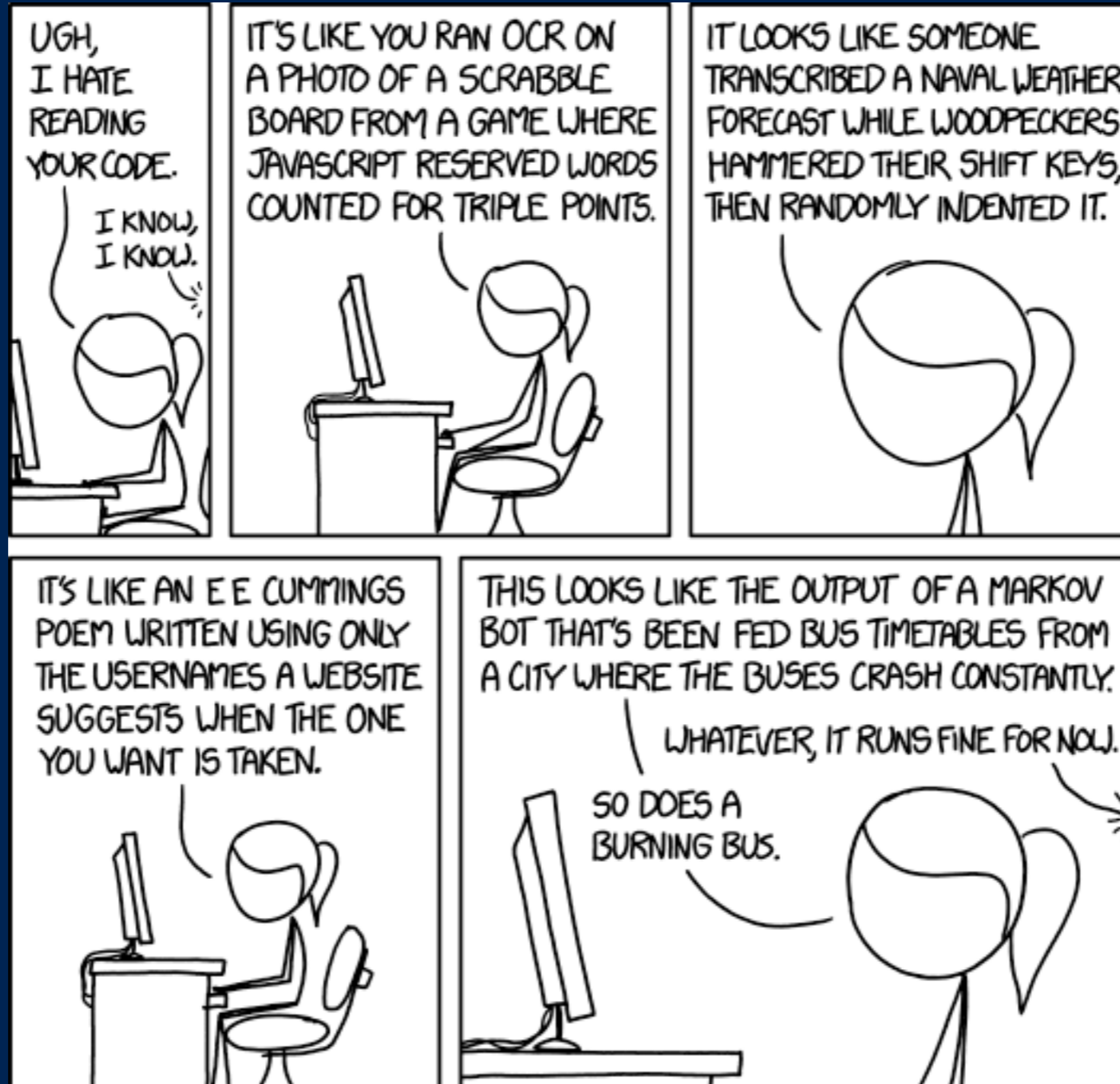


FIG. 3.— Light curve representations that we use as inputs to our neural network models. The “global view” is a fixed-length representation of the entire light curve, and the “local view” is a fixed-length representation of a window around the detected transit. (a) Strong planet candidate. (b) Long-period planet where the transit falls into just one bin in the global view. (c) Secondary eclipse that looks like a planet in the local view.

elsewhere

- **turing, cuda 10**
- **pytorch, fastai 1.0**
- **tf 1.11, eager execution, tf2**
- **iOS 12 launched**

javascript



demo

- **tensorflow.js + mobilenets**
- **cloud worker server**
- **cloudflare proxy worker**
- **serverless deploy**

urls

- jamesthom.as/blog/2018/08/13/serverless-machine-learning-with-tensorflow-dot-js/
- developers.cloudflare.com/workers/
- github.com/cloudflare/worker-examples
- quarkworks.co