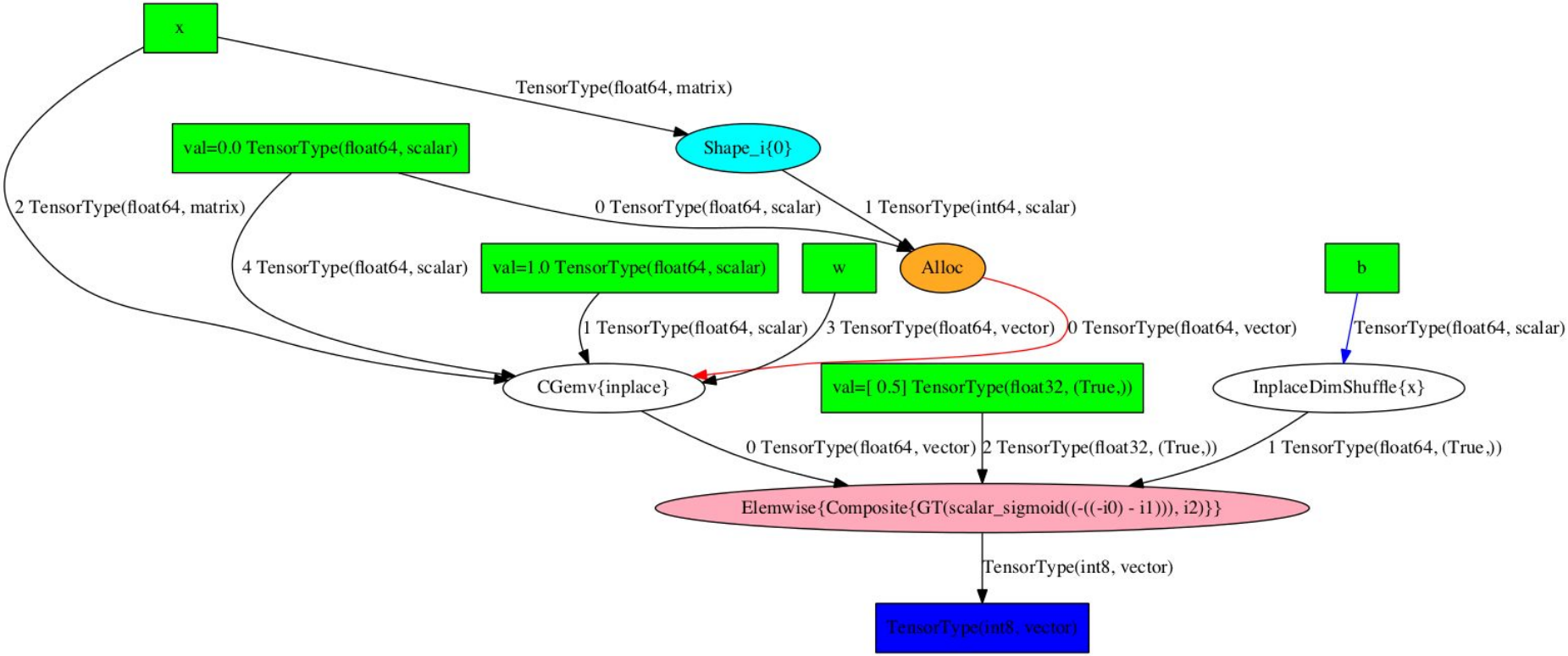
What’s new in TensorFlow?

History lesson...


x
TensorType(float64, matrix)
val=0.0 TensorType(float64, scalar)
Shape_i{0}
2 TensorType(float64, matrix)
0 TensorType(float64, scalar)
1 TensorType(int64, scalar)
4 TensorType(float64, scalar)
val=1.0 TensorType(float64, scalar)
w
Alloc
b
1 TensorType(float64, scalar)
3 TensorType(float64, vector)
0 TensorType(float64, vector)
TensorType(float64, scalar)
CGemv{inplace}
val=[0.5] TensorType(float32, (True,))
InplaceDimShuffle{x}
0 TensorType(float64, vector)
2 TensorType(float32, (True,))
1 TensorType(float64, (True,))
Elemwise{Composite{GT(scalar_sigmoid((-((-i0) - i1))), i2)}}
TensorType(int8, vector)
TensorType(int8, vector)

THEANO
ALL THE THINGS

The Theano way:

1. Express your model as a static graph
2. Compile the graph to get symbolic gradients
3. Run your data through the graph

Google

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1. Express your model as a static graph
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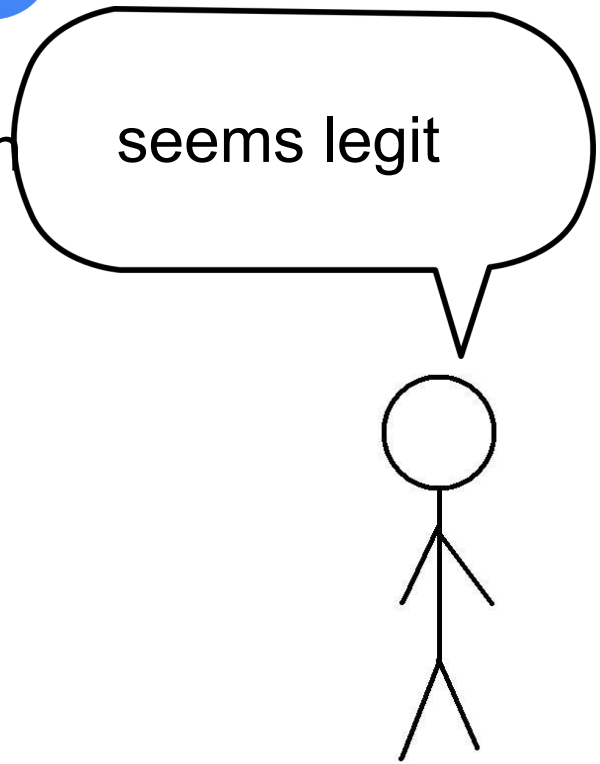
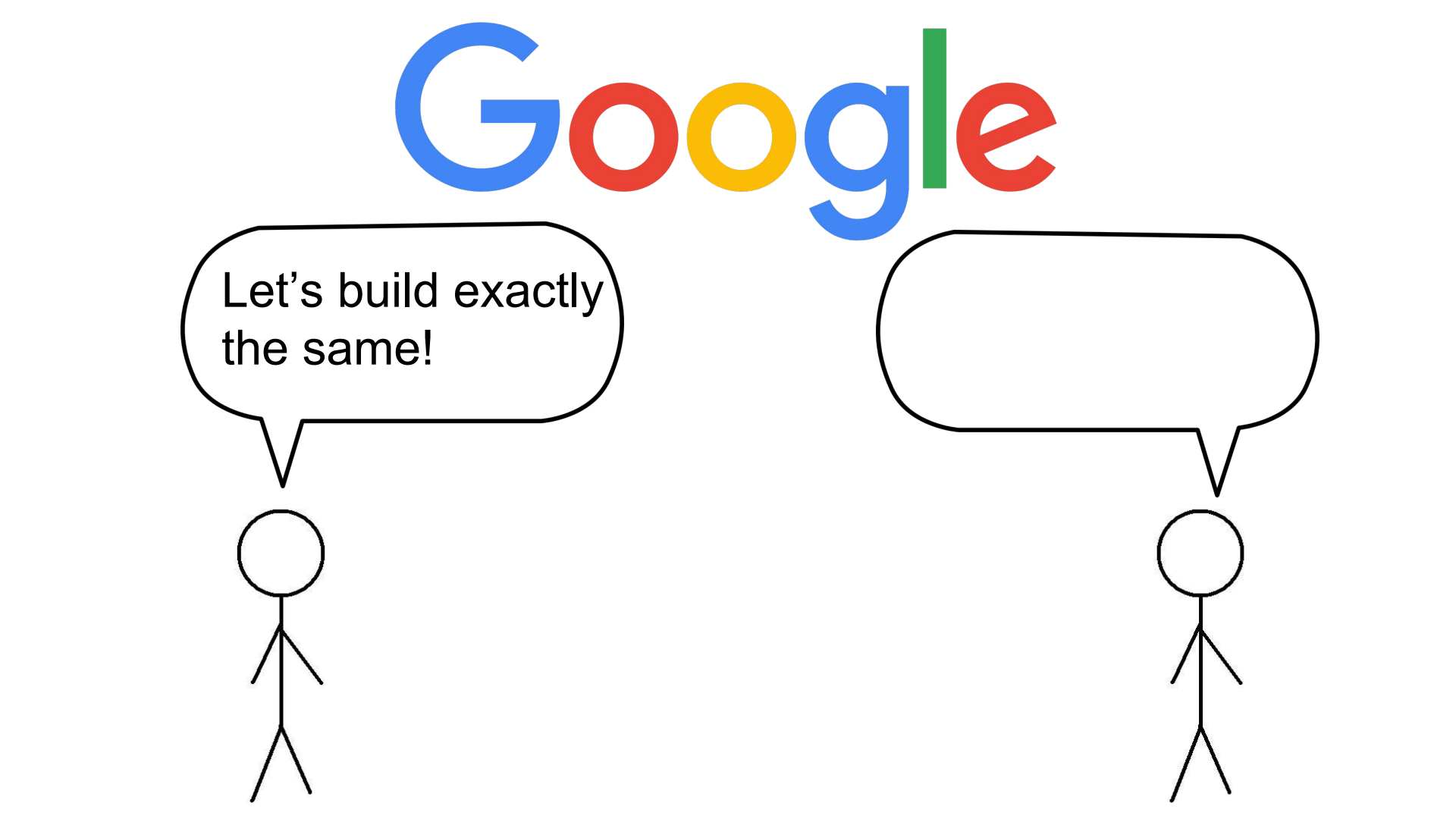
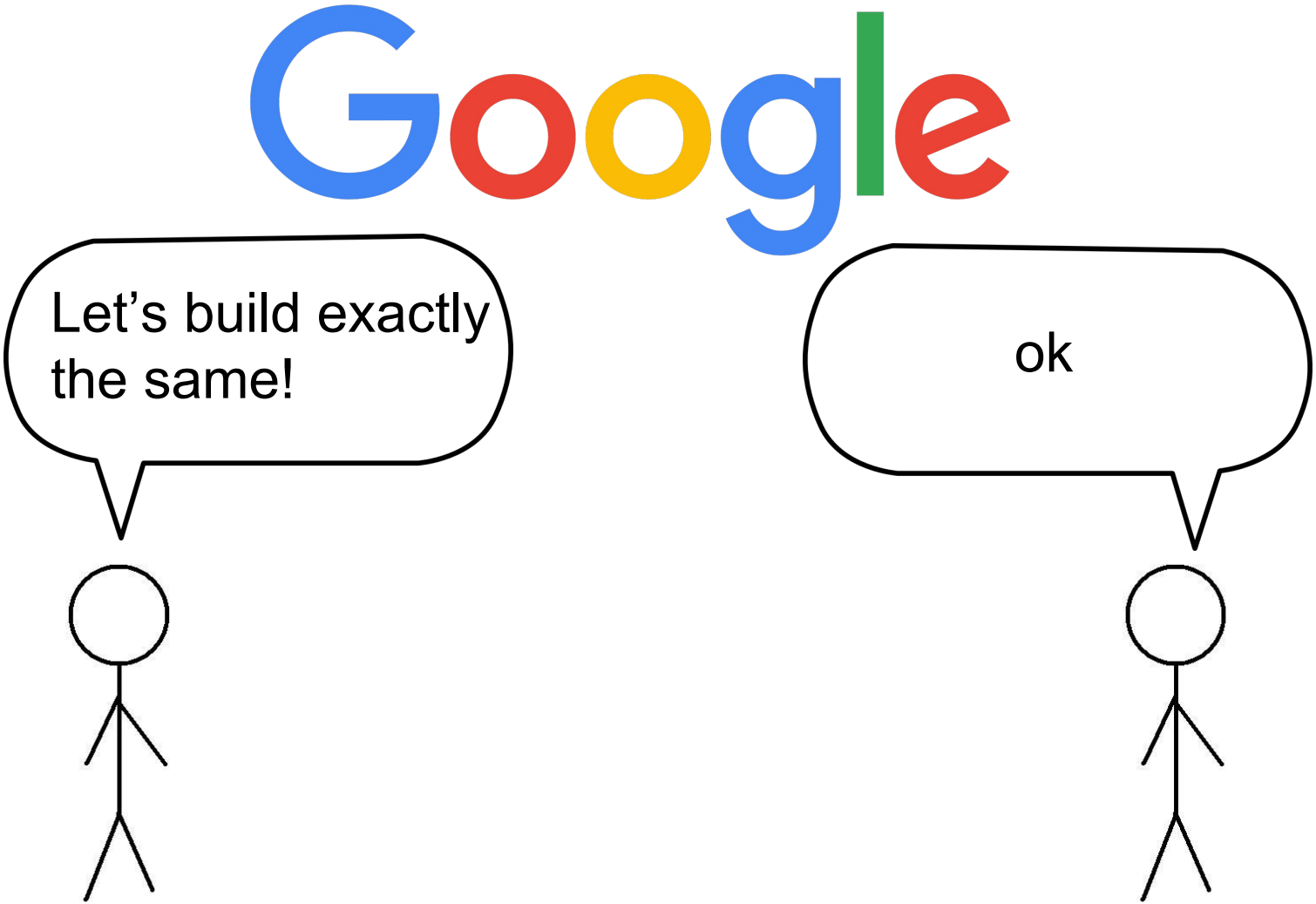
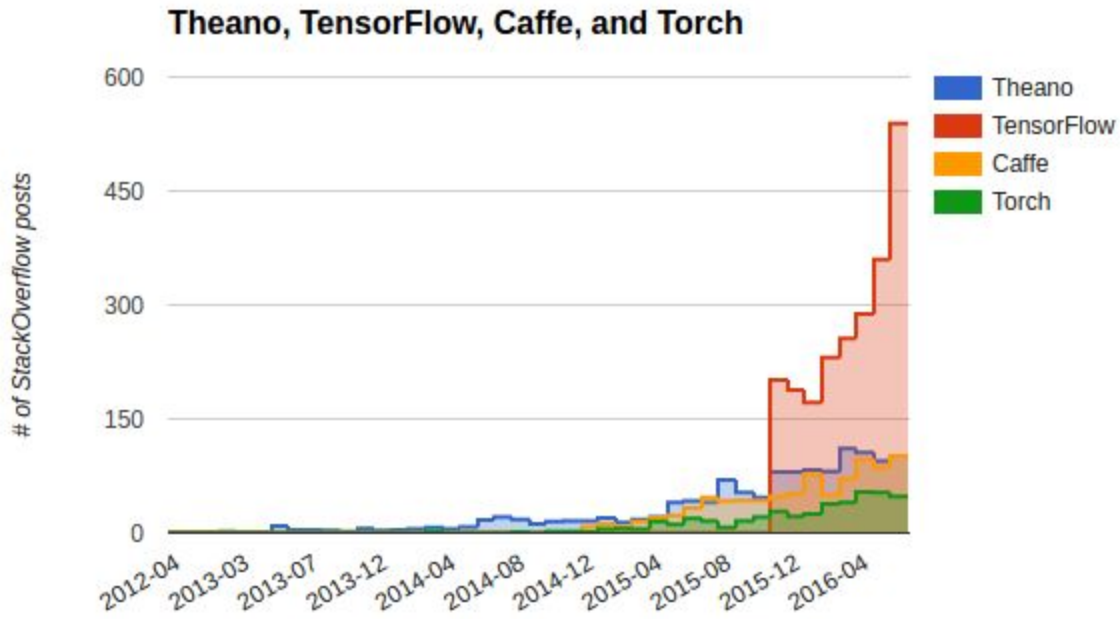



Google
Let’s build exactly the same!


Google
Let’s build exactly the same!
ok


Theano, TensorFlow, Caffe, and Torch
# of StackOverflow posts
600
450
300
150
0
2012-04
2013-03
2013-07
2013-12
2014-04
2014-08
2014-12
2015-04
2015-08
2015-12
2016-04
Theano
TensorFlow
Caffe
Torch

theano-users ›

MILA and the future of Theano

36 posts by 35 authors

Pascal Lamblin

Other recipients: theano-...@googlegroups.com, thean...@googlegroups.com

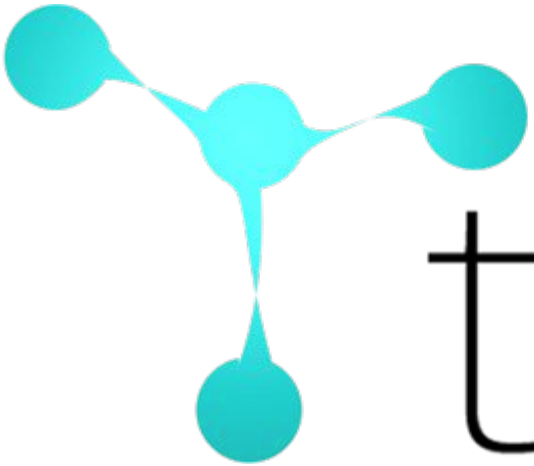
Dear users and developers,

After almost ten years of development, we have the regret to announce that we will put an end to our Theano development after the 1.0 release, which is due in the next few weeks. We will continue minimal maintenance to keep it working for one year, but we will stop actively implementing

In a land far far away...

In a land far far away...

torch



torch

PyTorch

The Torch way:

1. Wrap data in *Variables*
2. Do whatever you want
3. Backprop on the fly

Google

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1. Wrap data in *Variables*
2. Do whatever you want
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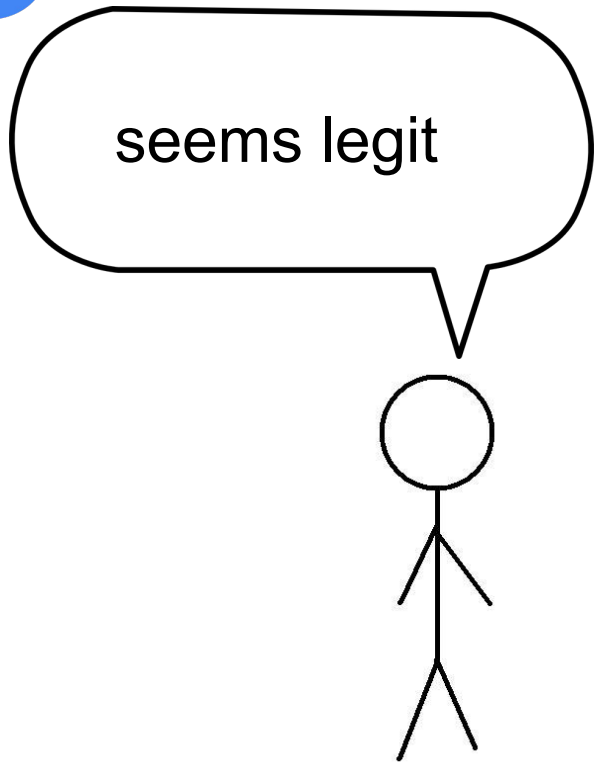

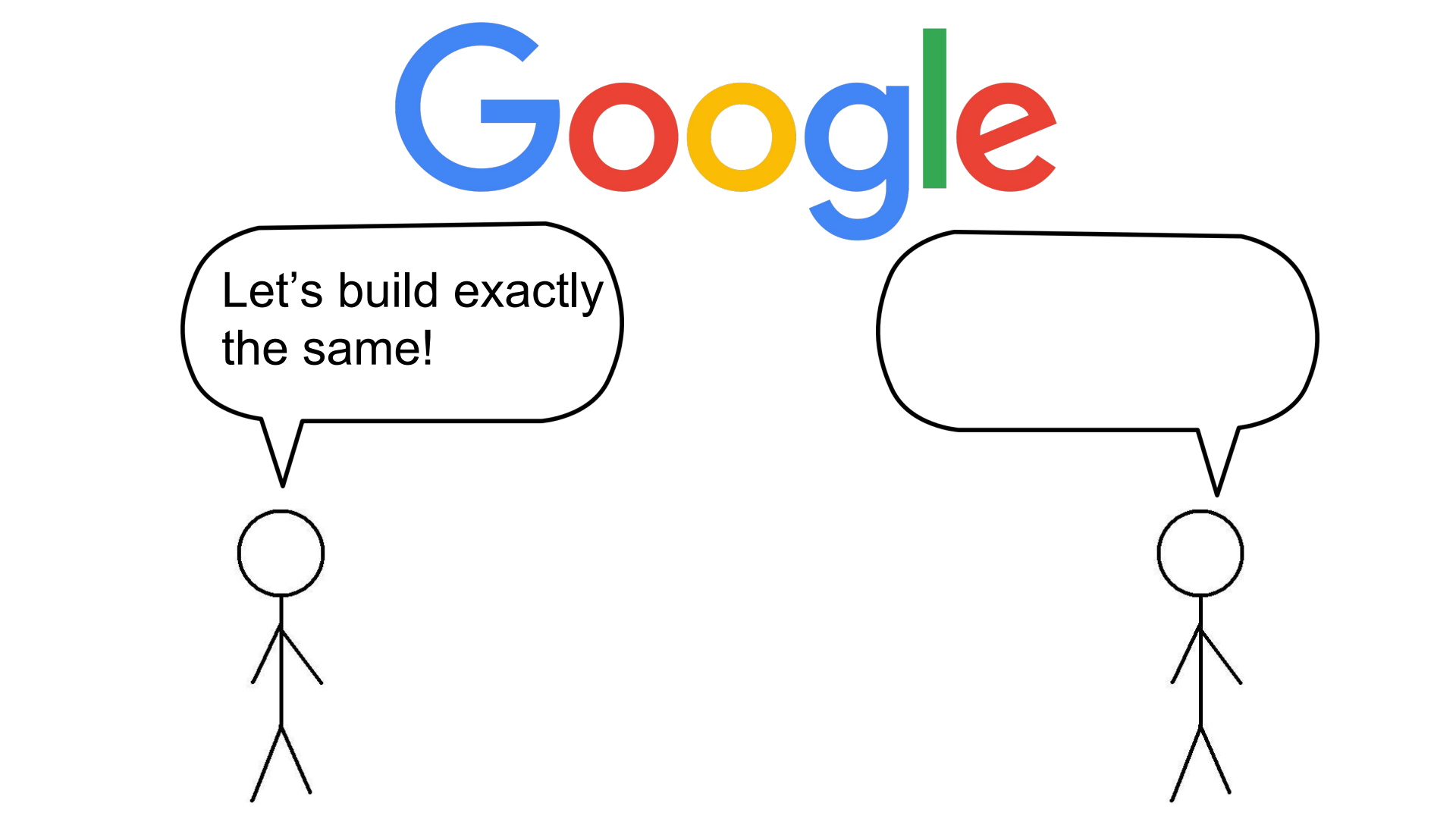
Google
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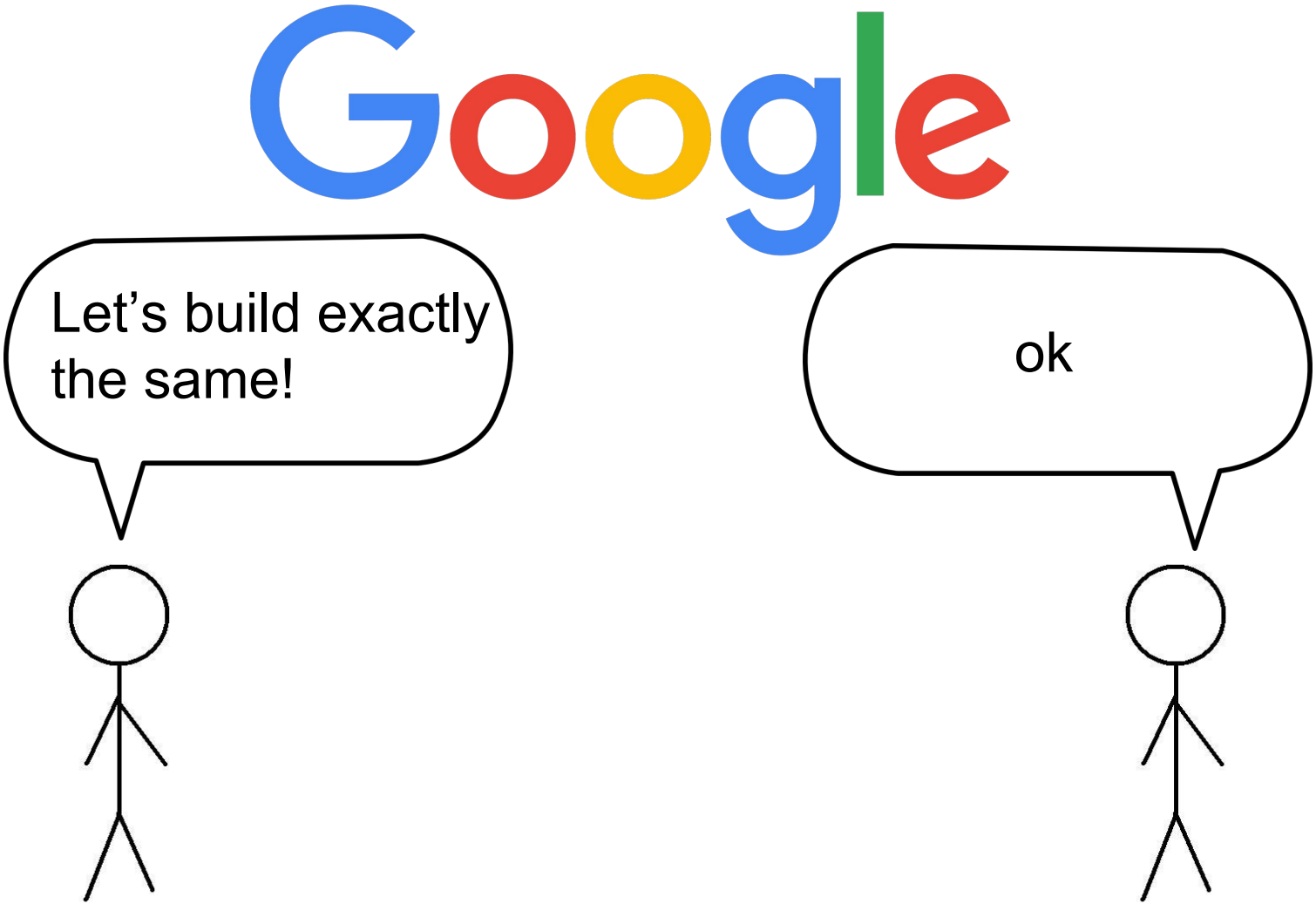

Google
Let’s build exactly the same!
ok

TensorFlow.js

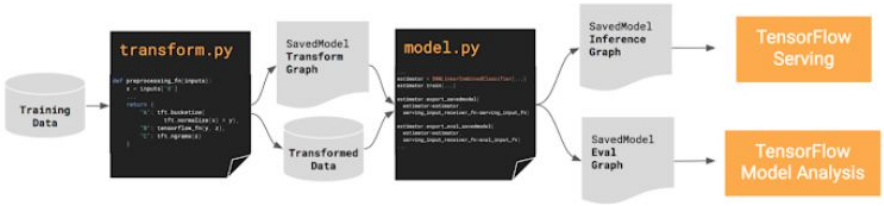
A WebGL accelerated, browser based JavaScript library for training and deploying ML models.

GET STARTED

TensorFlow Hub

TensorFlow Hub is a library to foster the publication, discovery, and consumption of reusable parts of machine learning models.

GET STARTED



TensorFlow Extended (TFX)

TensorFlow Extended (TFX) is an end-to-end ML platform, spanning from data ingestion, training, to production-grade serving.

LEARN MORE

TensorFlow Probability

TensorFlow Probability is a library for probabilistic reasoning and statistical analysis.

GET STARTED

Features Overview

- Eager Execution
- Data Loading
- Autograph
- Debugger