

TensorFlow For The Masses

Local Theory Data Science Meetup

Zac Slade

2019-12-12



localtheory

Python 3 Preliminaries

- PEP 8 Style Guide
<https://www.python.org/dev/peps/pep-0008/>
- Python Documentation
<https://docs.python.org/3/>



localtheory

NWA
DATA SCIENCE
MEETUP

Python 3 Preliminaries

CODE DEMO



localtheory

NWA
DATA SCIENCE
MEETUP

TensorFlow

- Main Site

<https://www.tensorflow.org/>

- Library Code

<https://github.com/tensorflow/tensorflow>

- Documentation

<https://www.tensorflow.org/overview/>



local theory

NWA
DATA SCIENCE
MEETUP

TensorFlow

What is a Tensor?

A tensor, is an n -dimensional array of numbers.

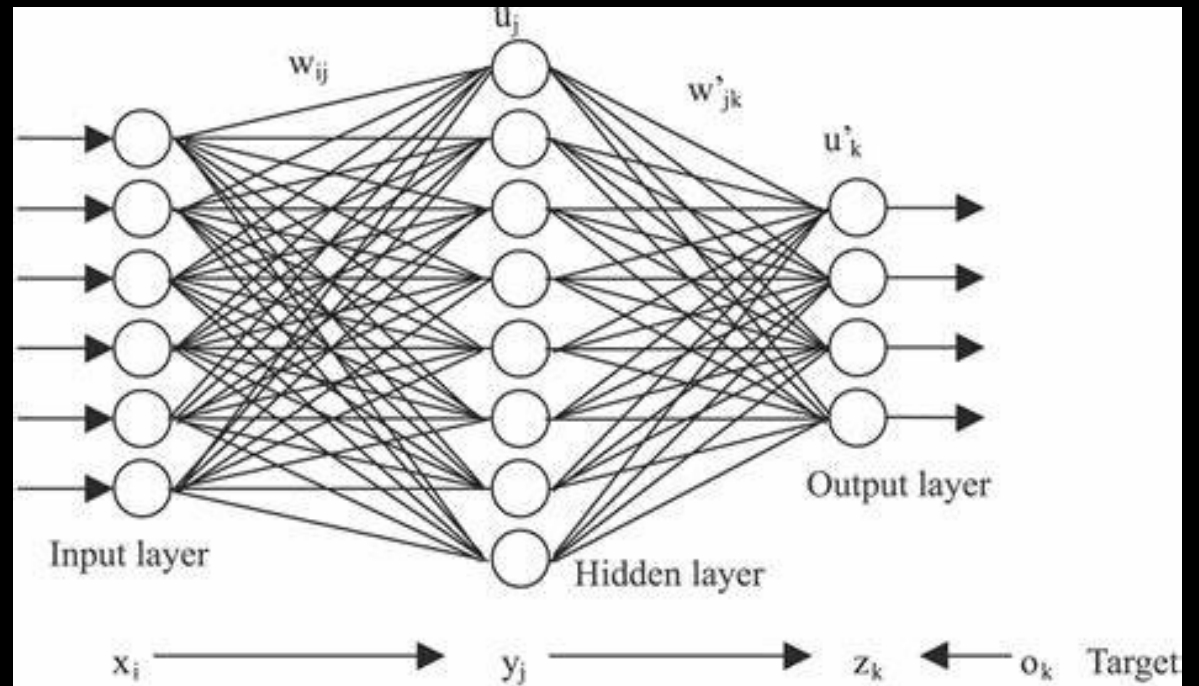
**Mathematicians, (please) don't get mad.*



localtheory

NWA
DATA SCIENCE
MEETUP

What is a Neural Network?



localtheory

NWA
DATA SCIENCE
MEETUP

What is a Model?

A model is a mathematical object which tries to represent some process in the real world.



localtheory

NWA
DATA SCIENCE
MEETUP

Keras Models

You can build models by hand, layer by layer, or you can use Keras to build models.

<https://keras.io>



localtheory

NWA
DATA SCIENCE
MEETUP

Keras Basics

CODE DEMO



localtheory

NWA
DATA SCIENCE
MEETUP

Off The Shelf Models

TF Hub

<https://tfhub.dev>

Keras Applications

<https://keras.io/applications/>



local theory

NWA
DATA SCIENCE
MEETUP

ALBERT

A State of the Art Natural
Language Model:

**A Lite Bidirectional Encoding of
Representational Transformers**



localtheory

NWA
DATA SCIENCE
MEETUP

ALBERT

CODE DEMO



localtheory

NWA
DATA SCIENCE
MEETUP

Thank You!
Code and Slides:

<https://github.com/krakrjak/data-science-meetup-2019-12-12>



localtheory

NWA
DATA SCIENCE
MEETUP