

# Deep Learning: Day 1

chyld @ galvanize

# Topics

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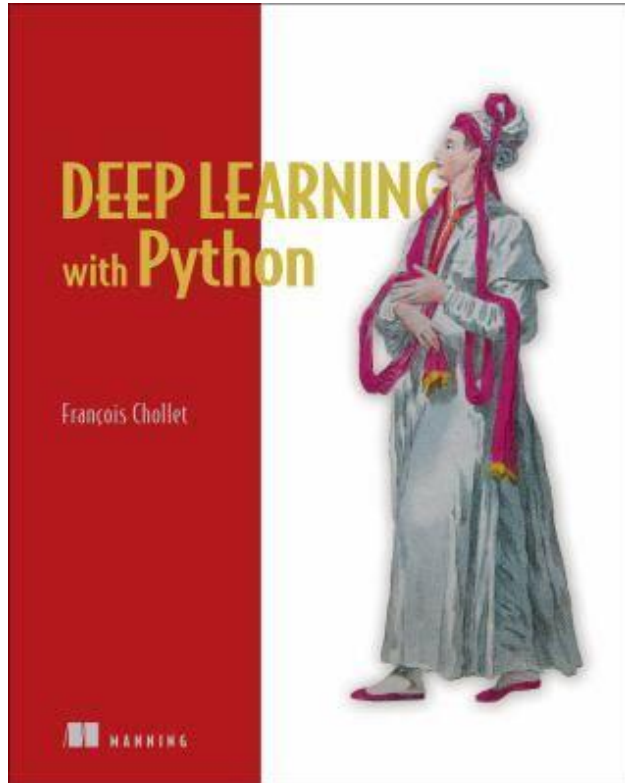
- Join Slack & Github
- Deep Learning Book
- Machine Learning
- Supervised vs Unsupervised
- Mathematics
- High Level Deep Learning
- Laptop Preparation
- Build Single Perceptron (Regression)
- Build Multilayer Perceptron (Regression)
- Build MLP (Binary Classification)
- Keras and Tensorflow
- Simple Linear Regression with Keras

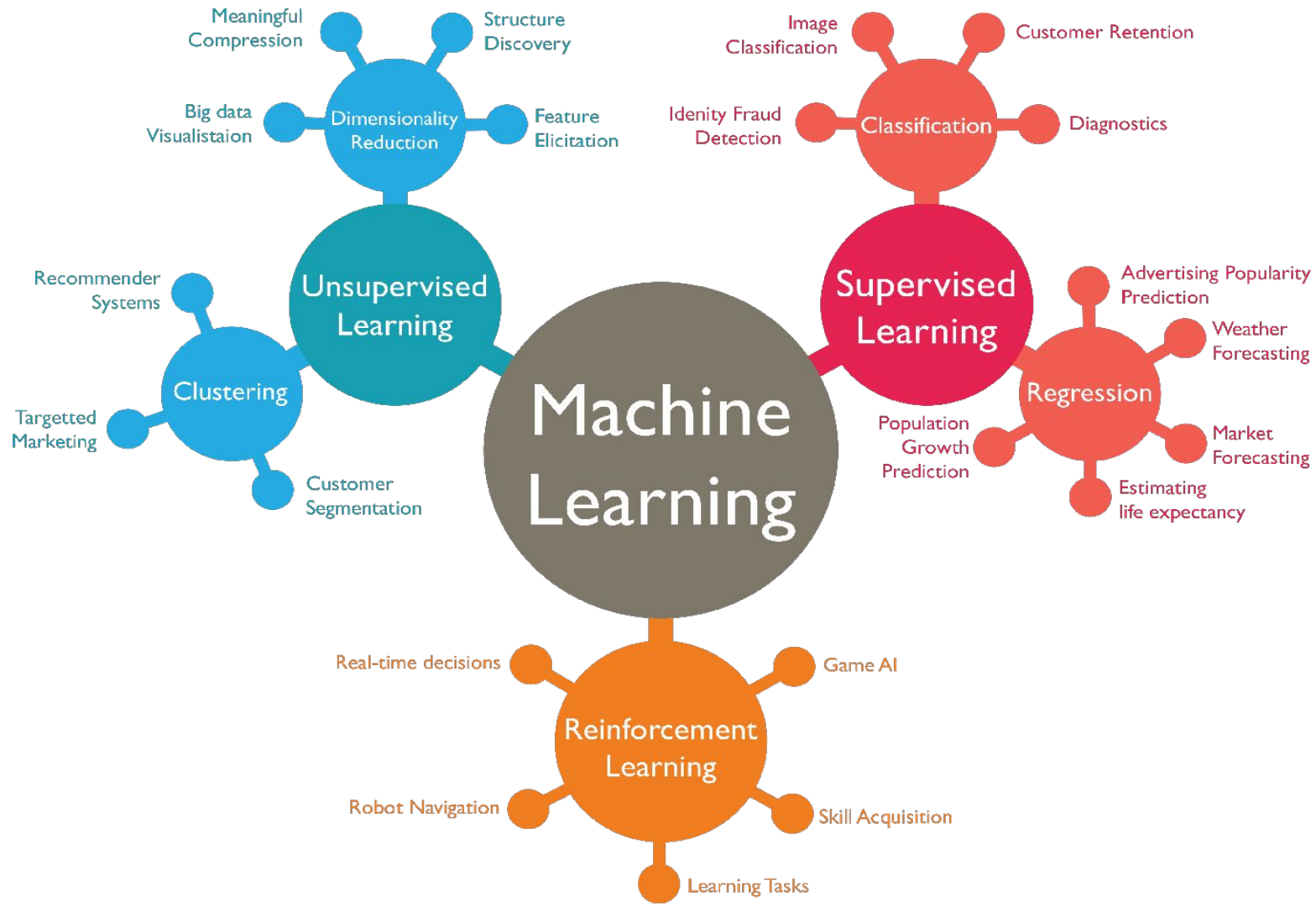
# Join Slack & Github

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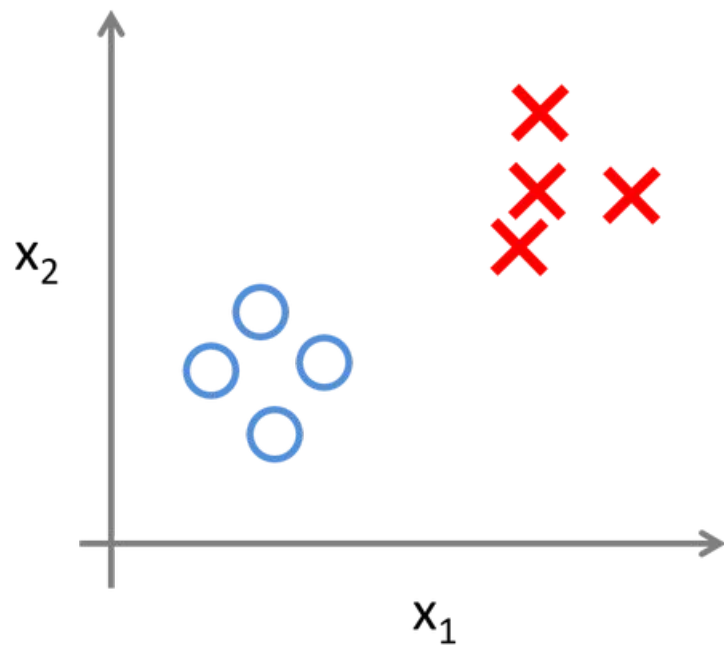
- Slack
- <http://bit.ly/2MBmC7m>
- Github
- <http://bit.ly/2MCnhWc>

# Deep Learning Book

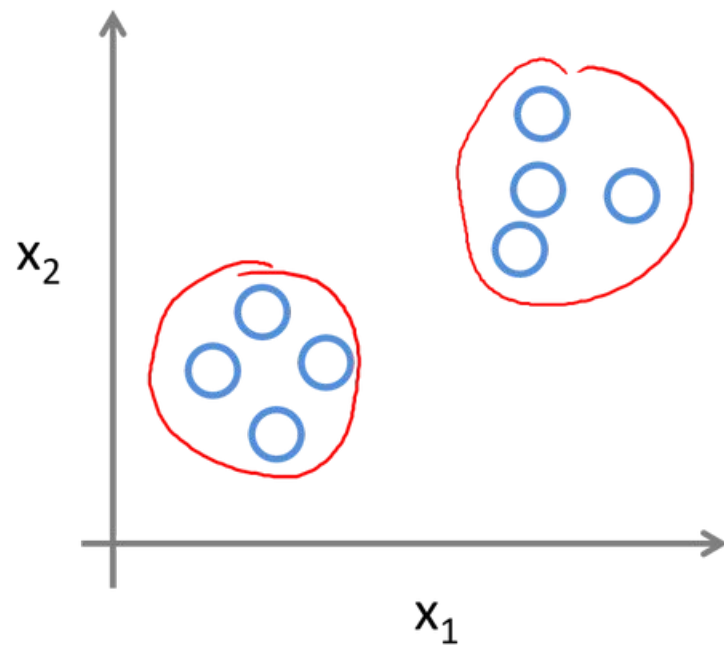




## Supervised Learning



## Unsupervised Learning



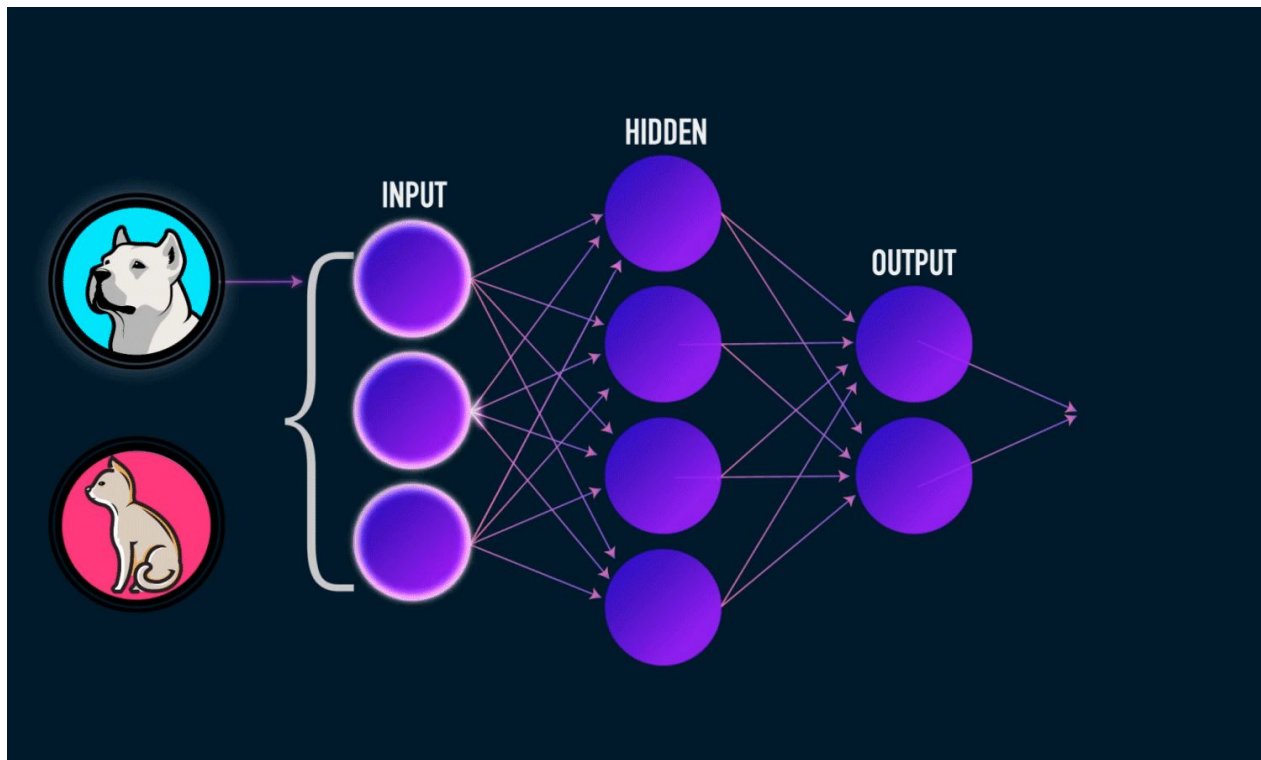
# Mathematics

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- Algebra
  - Solving polynomial equations
- Linear Algebra
  - Scalars
  - Vectors
  - Matrices
  - Tensors
- Calculus
  - Derivatives
  - Partial Derivatives

# High Level Deep Learning

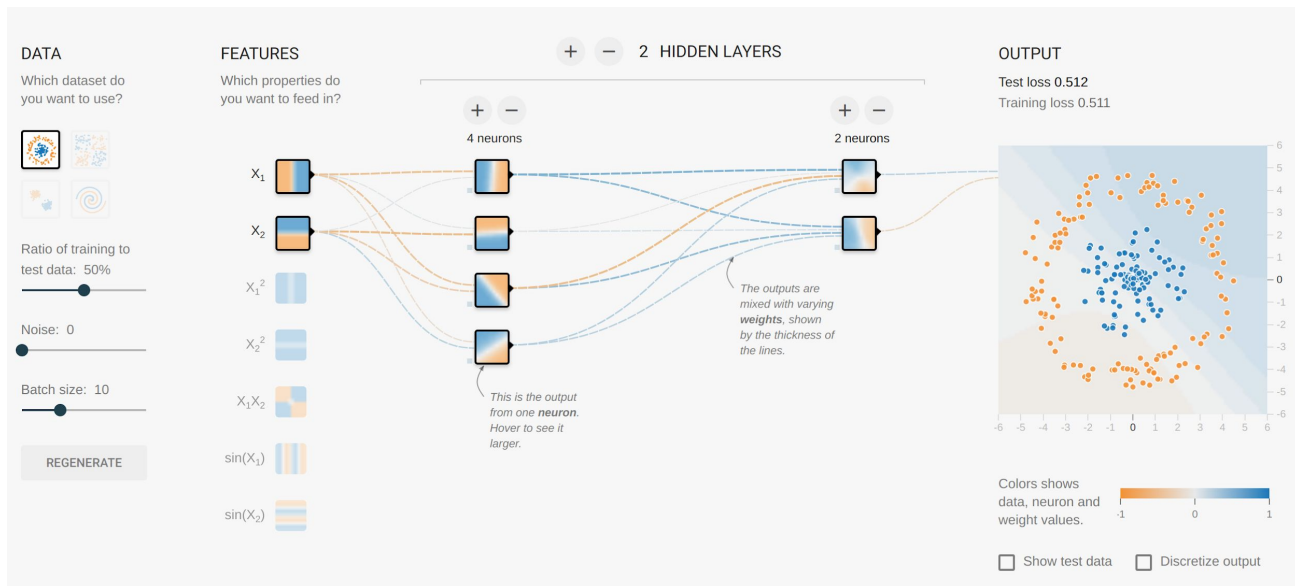
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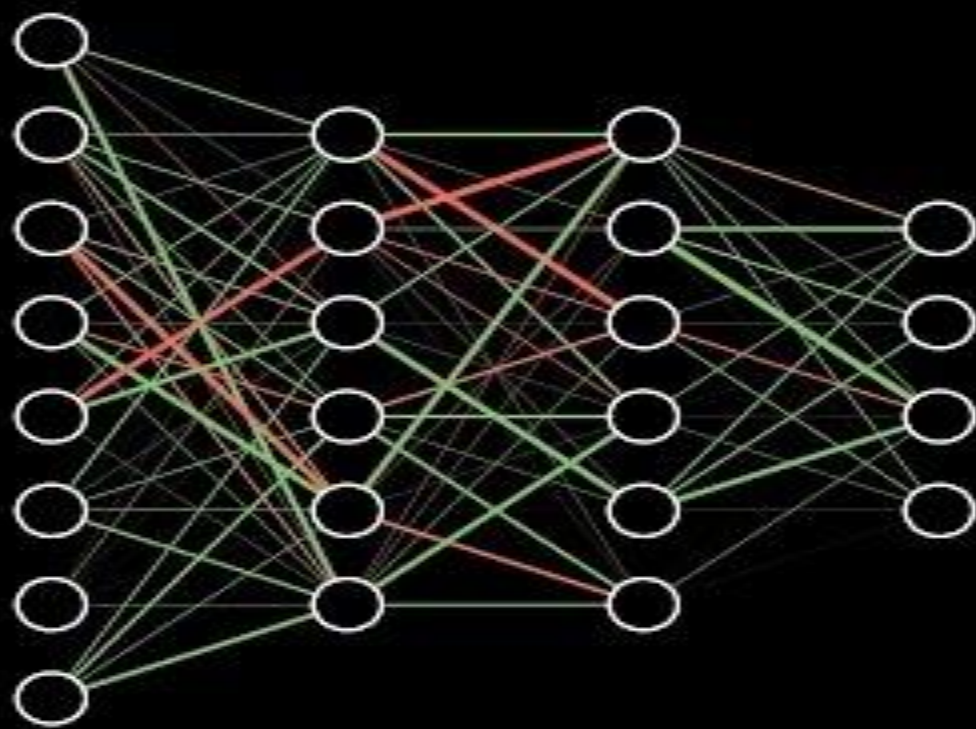




# High Level Deep Learning

- <https://playground.tensorflow.org/>





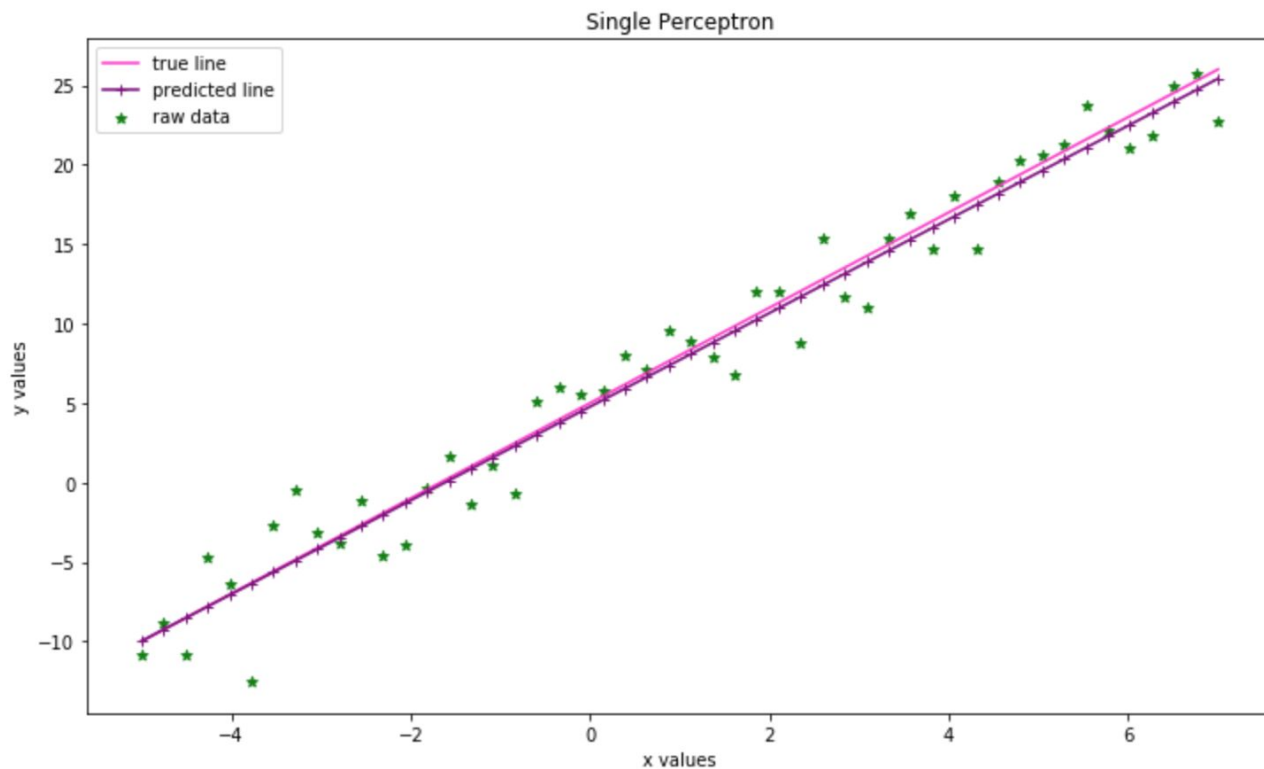
# Laptop Preparation

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- Laptop
  - Preferably Mac or Linux
  - Windows with a Linux Virtual Machine
  - Windows 10 with Bash
- Python 3.6
  - <https://conda.io/miniconda.html>
  - `conda install numpy pandas matplotlib jupyter jupyterlab`
- Code editor
  - <https://code.visualstudio.com/>
- Terminal
  - <https://hyper.is/>

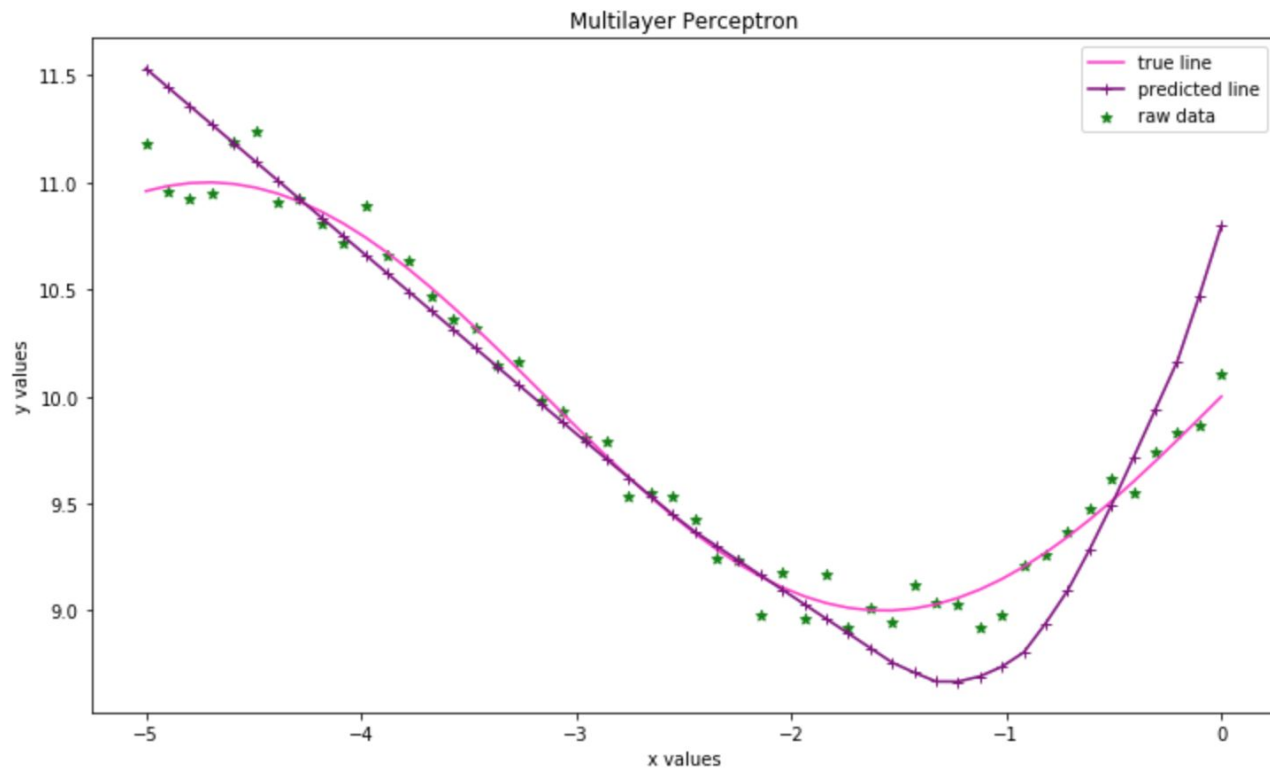
# Build Single Perceptron (Regression)

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# Build Multilayer Perceptron (Regression)

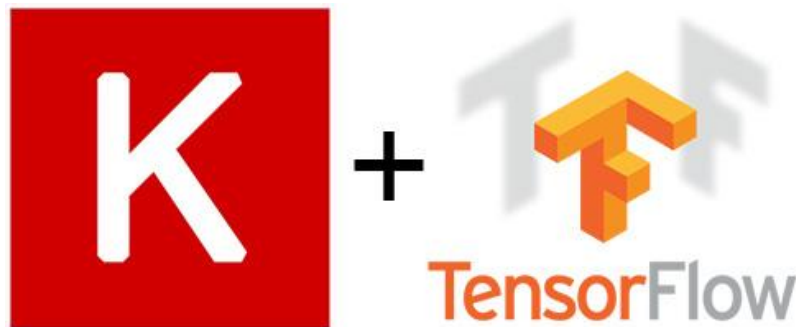
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# Keras and Tensorflow

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- <https://www.tensorflow.org/>
- An open source machine learning framework for everyone
- <https://keras.io/>
- Keras is a high-level neural networks API, written in Python and capable of running on top of TensorFlow, CNTK, or Theano. It was developed with a focus on enabling fast experimentation.



# Simple Linear Regression with Keras

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