DL Dev Course: Week 01

RED DRAGON AI

About me

- Serial Entrepreneur - B2C, B2B, Consulting
- Educational Apps - 4mil Users
- Red Dragon - New Startup
- Algorithmic trading
- DL4 Conversational Agents and Natural Language Understanding

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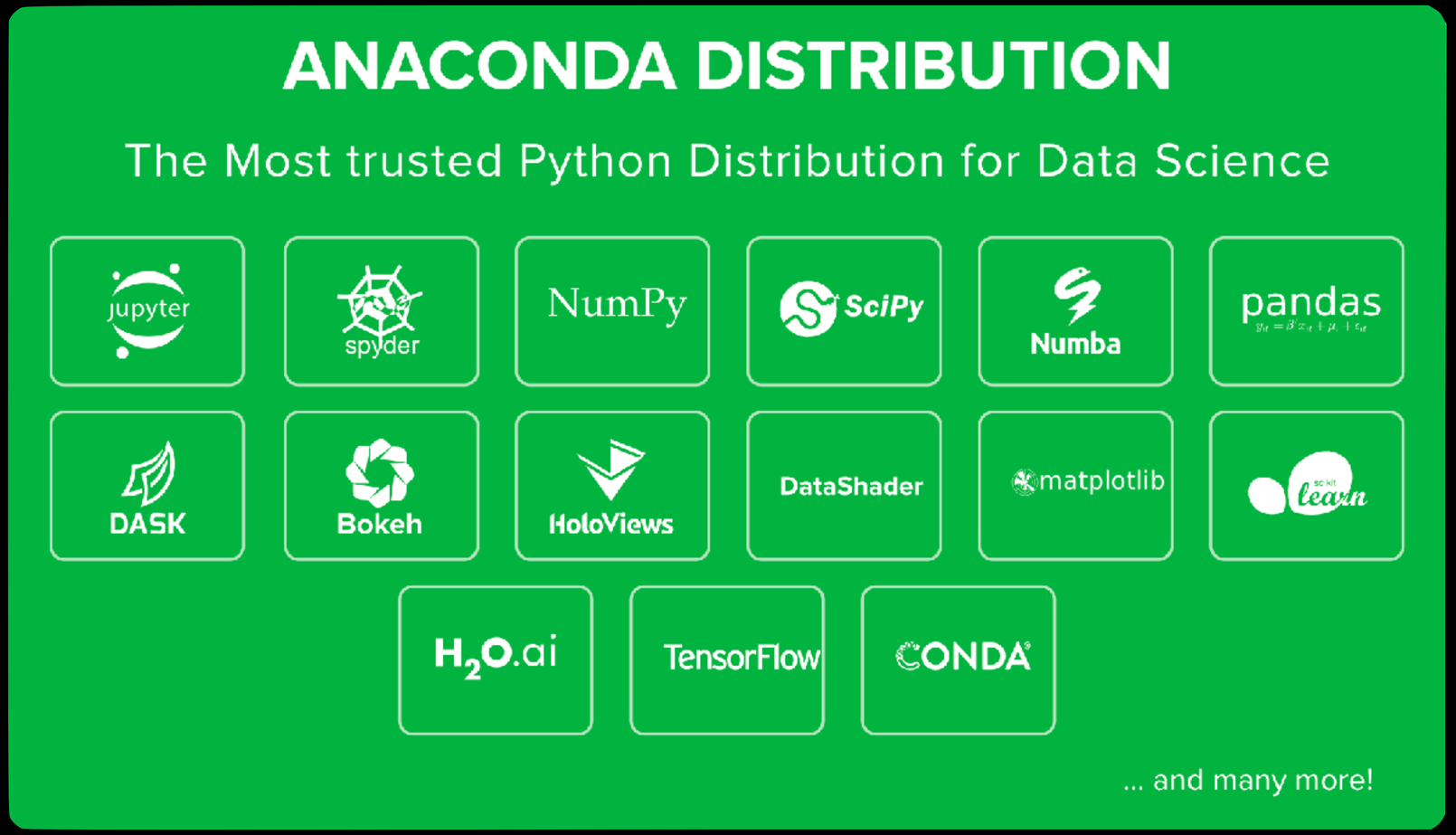
Python and Anaconda



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Why Anaconda?

- Easy support for Multiple Versions of Python
- Simple Environments
- SciPy stack already to go
- Optimized versions of Py libs for your computer

Environments

- Allows you to have multiple setups of different versions of Python and packages
- You often need Py2.7 for trying out stuff off GitHub
- Its a must if want to use TensorFlow daily builds etc

Environment Commands

Create ENV

~$ conda create -n yourenvname python=x.x anaconda

~$ conda create -n tensorflow13 python=3.5 anaconda

Activate ENV

~$ source activate yourenvname (windows no source)

Deactivate ENV

$ source deactivate

Check ENV info

$ conda info -e

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Environment Commands cont.

Cloning an Env

```
~$ conda create --name tf13 --clone tf12
```

Exporting Env

```
~$ conda env export > environment.yml
```

Build from .yml

```
$ conda env create -f environment.yml   #this creates with the exact old name
```

Restor ENV

```
$ conda env update -n root -f environment.yml
```

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Useful Conda commands

- Version

  $ conda -V

- Install package into env
  - conda install -n yourenvname package
- Update Conda
  - conda update conda
- Optimized versions of Py libs for your computer

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Pip Commands

- Pip install

```
$ pip install tensorflow-gpu

$ pip install tensorflow==1.3.0

$ pip uninstall [options] <package>
```

```
pip install tensorflow

pip install keras
```

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Jupyter Notebook

- Allows you to run code in the browser
- Good for sketching out ideas
- Taking notes

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Jupiter Notebook Commands

- Launch

  $ jupyter notebook

- Command line

  !pwd

- Magic commands eg. Matplotlib

  %matplotlib inline

  %time

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Links

- Anaconda - https://www.anaconda.com/distribution/
- Python in One Video - https://www.youtube.com/watch?v=N4mEzFDjqtA

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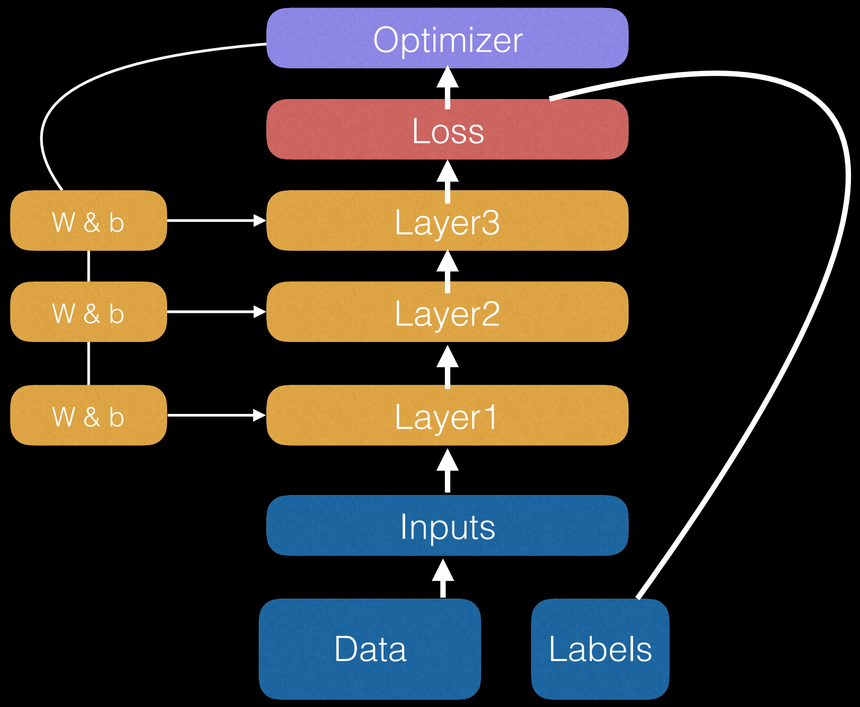

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Project 01

- f(x) Function Approximation
- Build a Dense Network to solve the following problem
- Addition of 2 numbers between 0-100
- Remove certain numbers eg. 50 and make sure that the network can still generalize. How many can you remove?
- Make it Classification rather than Regression
- Play with the network size, hyper parameters, and activation functions.
- You will need to make a dataset on your own too

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Parts of a Network

- Layers
- Neurons/nodes
- Activation Function
- Loss Function
- Logits layer
- Optimization function