keras-pandas

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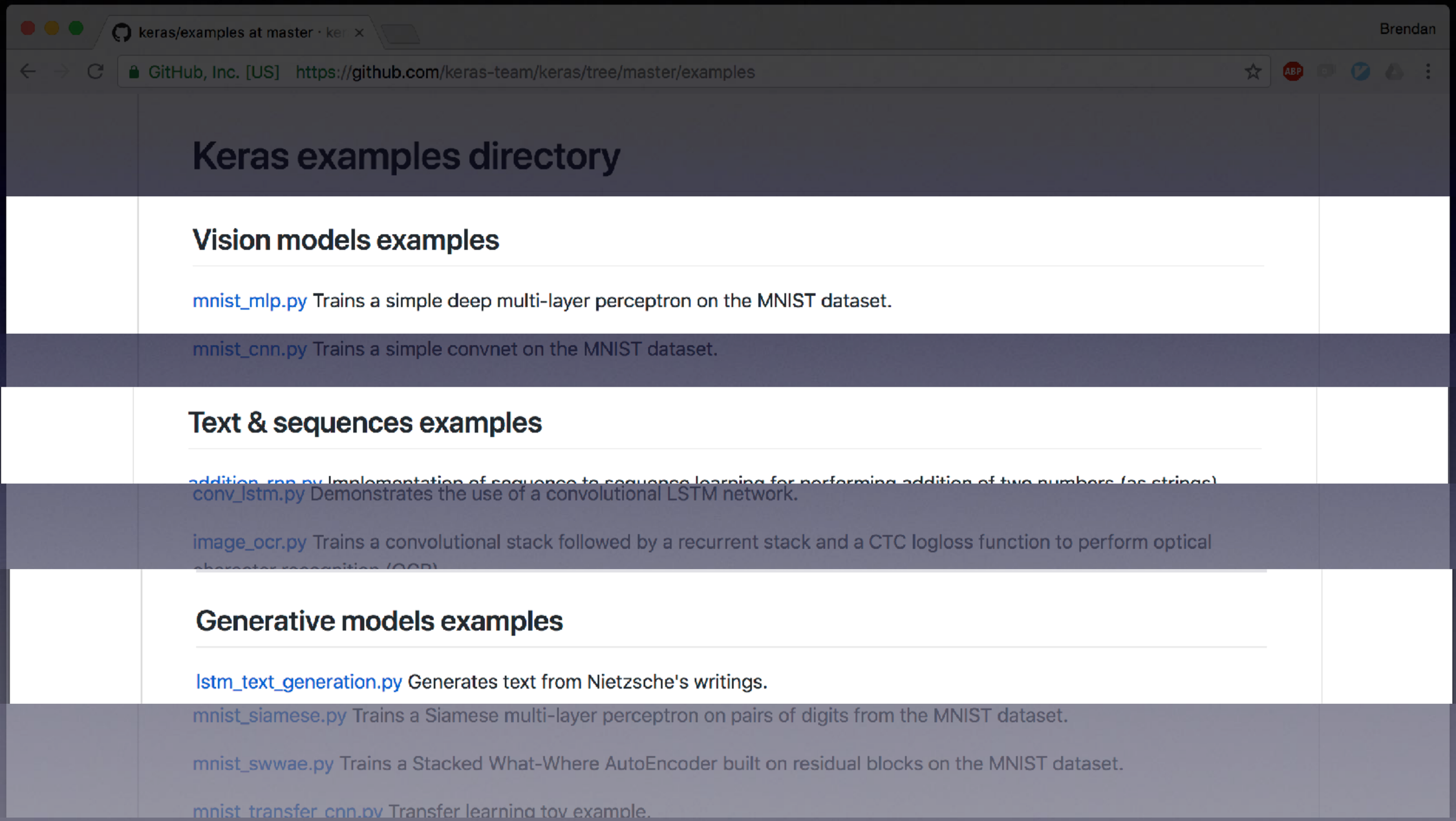
http://keras-pandas.readthedocs.io/

Slides: goo.gl/rZp6wQ


keras/examples at master · ker
Brendan
GitHub, Inc. [US] https://github.com/keras-team/keras/tree/master/examples
Keras examples directory
Vision models examples
mnist_mlp.py Trains a simple deep multi-layer perceptron on the MNIST dataset.
mnist_cnn.py Trains a simple convnet on the MNIST dataset.
Text & sequences examples
conv_lstm.py Demonstrates the use of a convolutional LSTM network.
image_ocr.py Trains a convolutional stack followed by a recurrent stack and a CTC logloss function to perform optical
Generative models examples
lstm_text_generation.py Generates text from Nietzsche's writings.
mnist_siamese.py Trains a Siamese multi-layer perceptron on pairs of digits from the MNIST dataset.
mnist_swwae.py Trains a Stacked What-Where AutoEncoder built on residual blocks on the MNIST dataset.
mnist_transfer_cnn.py Transfer learning toy example.

Intro
Hands On
Getting Started

Intro

DL is attainable. `keras-pandas` allows users to rapidly build and iterate on deep learning models.

- **New users:** Lowering the barrier to entry, good starting point.
- **Existing users:** Allows for rapid iteration, good starting point

Hands On

Old way

- **Highly customizable:** Data transformations, data format, input layers
- **Heuristic driven:** Involves high amount of domain expertise, neural network theory, and heuristics
- **Repetitive:** Time consuming & repetitive to create similarly formatted layers

keras-pandas way

- **Less customizable:** Batteries included defaults for each data type
- **Rapid:** Ability to build and iterate on models with a few function class
- **Maintainable:** More consistent code base, with less redundancy

Getting started

- **Example:** Try the titanic example in README.md
- **Docs:** Near total coverage, dive deeper than this talk
- **Get involved:** Actively looking for collaborators & feedback

Next steps

- **Time series:** Smart defaults for time series models
- **Iterate:** Hear and respond to user feedback
- **Examples:** Find interesting data sets w/ mixed data types

Getting started

Quick Start

Let's build a model with the [titanic data set](https://www.kaggle.com/c/titanic/data. This data set is particularly fun because this data set contains a mix of categorical and numerical data types, and features a lot of null values.

We'll `keras-pandas`

```
pip install -U keras-pandas
```

And then run the following snippet to create and train a model:

```
from keras import Model
from keras.layers import Dense
```

Thanks!

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Appendix

Lessons learned

- Thank your loved ones
- Find a few good examples you'd like to borrow (steal) from
- Stack
- Documentation: MD (docs) & RST (docstrings)
  - Documentation website: Sphinx (with m2r plugin for markdown)
  - Documentation serving: readthedocs.io
  - CI/CD: Travis for CI/CD