

Machine learning frameworks

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0.1 Context

0.2 Learned in this study

0.3 Things to explore

1 Overview

2 Accord.NET framework

- **Website:** <http://accord-framework.net/>
- **Language:** C#/.NET
- **Type:** Machine learning framework

3 Blocks

- **Website:** <https://github.com/mila-udem/blocks>
- **Language:** Python
- **Type:** Neural network framework

3.1 Details

- Built on [Theano](#)
- Specialized for neural network models

4 Caffe

- **Website:** <http://caffe.berkeleyvision.org/>
- **Language:** C++
- **Type:** Neural network framework

5 Chainer

- **Website:** <http://chainer.org/>
- **Language:** Python
- **Type:** Neural network framework

6 Deeplearning4j

- **Website:** <http://deeplearning4j.org/>

- **Language:** Java/Scala
- **Type:** Neural network framework

7 GoLearn

- **Website:** <https://github.com/sjwhitworth/golearn>
- **Language:** Go
- **Type:** Neural network framework

8 Keras

- **Website:** <http://keras.io/>
- **Language:** Python
- **Type:** Neural network framework

8.1 Details

- Built on [Theano](#)/[Tensorflow](#) as backend
- The goal is to make it easy/fast to prototype

9 Lasagne

- **Website:** <https://github.com/Lasagne/Lasagne>
- **Language:** Python
- **Type:** Neural network framework

9.1 Details

- Built on [Theano](#)

10 MLlib

- **Website:** <https://spark.apache.org/mllib/>
- **Language:** Java/Python
- **Type:** Machine learning framework

11 mlpack

- **Website:** <http://www.mlpack.org/>
- **Language:** C++
- **Type:** Machine learning framework

12 NuPIC

- **Website:** <http://numenta.org/>
- **Language:** Python
- **Type:** Machine learning framework

12.1 Details

- Hierarchical Temporal Memory only

13 Oryx

- **Website:** <http://oryx.io/>
- **Language:** Java
- **Type:** Machine learning framework

13.1 Details

- Built on [Apache Spark](#) and [Apache Kafka](#)

14 Pybrain

- **Website:** <http://pybrain.org/>
- **Language:** Python
- **Type:** Machine learning framework

14.1 Details

- Small documentation

15 Pylearn2

- **Website:** <https://github.com/lisa-lab/pylearn2>
- **Language:** Python
- **Type:** Machine learning framework

15.1 Details

- Built on [Theano](#)
- No more maintainer

16 Scikit-learn

- **Website:** <http://scikit-learn.org/>
- **Language:** Python
- **Type:** Machine learning framework

16.1 Details

- Excellent documentation

17 Tensorflow

- **Website:** <https://www.tensorflow.org/>
- **Language:** Python
- **Used by:** Google

17.1 Details

- Supports only Mac OS X and Ubuntu/Linux 64-bit
- GPU support
- No distributed architecture yet

18 Theano

- **Website:** <http://deeplearning.net/software/theano/>
- **Language:** Python
- **Type:** Scientific computing framework
- **Used by:** MILA

18.1 Details

- Supports all platforms, however mainly developed/tested on Linux 64-bit
- GPU support
- No distributed architecture yet

18.2 Torch

- **Website:** <http://torch.ch/>
- **Language:** LUA
- **Type:** Scientific computing framework
- **Used by:** Facebook, Google, Twitter, NYU

18.3 Details

- Supports only Mac OS X and Ubuntu
- Community managed documentation (discutable quality)
- GPU support

19 See also

20 References

- <https://github.com/josephmisiti/awesome-machine-learning>
- <http://docs.chainer.org/en/stable/comparison.html>
- <https://github.com/szilard/benchm-ml>
- <https://github.com/szilard/survey-ml-tools>
- <http://scikit-learn.org/ml-benchmarks/>