

Software Packages for Deep Learning

Chensong Zhang

with Zheng Li and Ronghong Fan

DL Online Seminar — April 27, 2017

Outline

Introduction

TensorFlow

MxNET

Torch

Caffe

Performance comparison

Machine learning

- ML gives computers the ability to learn without being explicitly programmed [Samuel 1959]
- ML explores the study and construction of algorithms that can learn from and make predictions on data
- Data mining, computational statistics, optimization, ...
- Fourth paradigm, big data, deep learning, artificial intelligence

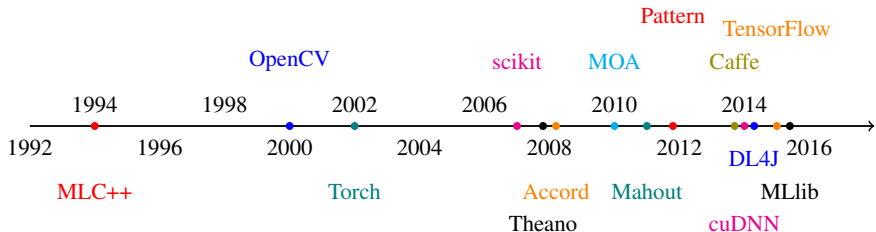


Figure: Machine learning packages

General machine learning code



Deep learning



Python



Computational graph



Programming interface



Visualization



Example 1



Programming interface



Example 1



Programming interface



Example 1



Programming interface



Example 1

Programming interface



Numerical tests



Numerical tests



Thank You!

