Deep Learning Self-Learning Resources

This is a list of free material that I have personally used to study deep learning (and related topics) or have been recommended to me.

Deep Learning

Courses

- Deep Learning Specialization (Andrew Ng)
- MIT 6.S191 Introduction to Deep Learning
- Stanford CS231n: Convolutional Neural Networks for Visual Recognition (Fei-Fei Li, Andrej Karpathy)
- Google's Machine Learning Crash Course
- Deep Unsupervised Learning (Pieter Abbeel)
- Deep Reinforcement Learning (Sergey Levine)

Textbooks

- Deep Learning (Ian Goodfellow, Yoshua Bengio, and Aaron Courville)
- Neural Networks and Deep Learning (Michael Nielsen)
- Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow, 2nd Edition (Aurelion Geron)

Mathematics

Courses

- Khan Academy
  - Linear Algebra
  - Probability and Statistics
  - Calculus
- MIT OCW Linear Algebra (Gilbert Strang)

- 3blue1brown Youtube Channel
  - Deep Learning
  - Calculus
  - Linear Algebra
- MIT OCW Single Variable Calculus

Artificial Intelligence

Courses

- Udacity: Intro to Artificial Intelligence (Peter Norvig and Sebastian Thrun)
- Berkeley CS188: Introduction to Artificial Intelligence (Pieter Abbeel and Dan Klein)
- UCL Course on Reinforcement Learning (David Silver)

Textbooks

- Artificial Intelligence: A Modern Approach (Stuart Russel and Peter Norvig)
- Pattern Recognition and Machine Learning (Christopher Bishop)
- Reinforcement Learning: An Introduction (Andrew Barto and Richard S. Sutton)

Coding

Tutorials

- PyTorch Tutorials
- TensorFlow Tutorials

Online Coding Environment (with GPU resource)

- Google Colabs
- Gradient by Paperspace

Practical

- Kaggle
    - Community of people interested in science, data and artificial intelligence who share data, models, and collaborate
    - Host competitions where participants compete to design techniques to achieve the best score on a given problem and dataset
- GitHub
    - Site for hosting open source code
    - Great place to look for example code to refer to

Useful

Asking Questions

- Quora
- Stack Overflow

Podcasts

- Artificial Intelligence Podcast (Lex Fridman)

Articles

- The Batch (Andrew Ng)
- The Gradient