



# McCarthy Lab

## A Resource guide

VERSION 1.0

### Videos to refer to :

1. For absolute beginners into Machine Learning, Andrew Ng Stanford ( [https://www.youtube.com/playlist?list=PLLssT5z\\_DsK-h9vYZkQkYNWcltqhIRJLN](https://www.youtube.com/playlist?list=PLLssT5z_DsK-h9vYZkQkYNWcltqhIRJLN)). There is a new iteration of the same playlist with add-on TensorFlow implementation that can be found here (<https://www.youtube.com/playlist?list=PLxfEOJXRm7eZKJyovNH-IE3ooXTsOCvfC>)
2. For a better visual and conceptual understanding of Linear Algebra and Calculus, watch “**Essence of Linear Algebra**” ([https://www.youtube.com/playlist?list=PLZHQObOWTQDPD3MizzM2xVFitgF8hE\\_ab](https://www.youtube.com/playlist?list=PLZHQObOWTQDPD3MizzM2xVFitgF8hE_ab)) and “**Essence of Calculus**” (<https://www.youtube.com/playlist?list=PLZHQObOWTQDMSr9K-rj53DwVRMYO3t5Yr>)
3. Once done with the Andrew Ng Stanford course, you can proceed onto **Deep Learning Specialization** which can be either found on Coursera (<https://in.coursera.org/specializations/deep-learning>) with certifications or Youtube. This particular specialization is broken down into 5 different courses which all would polish you well with different facets of Deep Learning.

### Books to refer to :

**Caution : Any attempt to crash course through these books may lead to a burn-out.**

1. Hands-On Machine Learning with Scikit-Learn, Keras & TensorFlow (O'Reilly)
2. Deep Learning with PyTorch (Manning)
3. Deep Learning by Ian Goodfellow

### Framework Guide :

1. For TensorFlow, the official website (<https://www.tensorflow.org/>) would provide you with a good pathway to begin. A structured way to learn the framework can be found at **TensorFlow Developer Professional Certification** (<https://in.coursera.org/professional-certificates/tensorflow-in-practice>)
2. Similarly for PyTorch, the official website (<https://pytorch.org/>) is a good resource to begin with. A structured way to learn the framework can be found at **Introduction to PyTorch by Udacity** (<https://www.udacity.com/course/deep-learning-pytorch--ud188>)

### Research Internship

A compiled list of all available research internships can be found at : (<https://github.com/himahuja/Research-Internships-for-Undergraduates>)

*Any feedback, suggestions and errors regarding this documentation can be mailed to [agarwalaman190202@gmail.com](mailto:agarwalaman190202@gmail.com)*