**Learn\_Deep\_Learning\_in\_6\_Weeks**

This is the Curriculum for "Learn Deep Learning in 6 Weeks" by Siraj Raval on Youtube

**Overview**

This is the curriculum for [this](https://youtu.be/_qjNH1rDLm0) video on Youtube by Siraj Raval

**Week 1 - Feedforward Neural Networks and Backpropagation**

*  Read Part I of the Deep Learning Book found [here](http://www.deeplearningbook.org/)
* <http://www.deeplearningbook.org/lecture_slides.html>
*  Use this cheat sheet to help understand any math notation, found [here](https://www.flickr.com/photos/95869671@N08/40544016221)
*  Watch [Build a Neural Net in 4 Minutes](https://www.youtube.com/watch?v=h3l4qz76JhQ)
*  Read [Neural Net in 11 lines](https://iamtrask.github.io/2015/07/12/basic-python-network/)
*  Type out the neural network code yourself in a text editor, compile, and run it locally (using no ML libraries)
*  Watch [Backpropagation in 5 minutes](https://www.youtube.com/watch?v=q555kfIFUCM)

**Week 2 - Convolutional Networks**

*  Watch the Convolutional Networks Specialization on Coursera, found [here](https://www.coursera.org/learn/convolutional-neural-networks).
*  Read all 3 lecture notes under Module 2 for Karpathy CNN course found [here](http://cs231n.github.io/)
*  Watch my video on CNNs [here](https://www.youtube.com/watch?v=FTr3n7uBIuE&t=1782s) and [here](https://www.youtube.com/watch?v=cAICT4Al5Ow&t=4s)
*  Write out a simple CNN yourself (using no ML libraries)

**Week 3 - Recurrent Networks**

*  Watch the Sequence Models Specialization on Coursera, found [here](https://www.coursera.org/learn/nlp-sequence-models)
*  Watch my videos on recurrent networks, [here](https://www.youtube.com/watch?v=BwmddtPFWtA&t=4s), [here](https://www.youtube.com/watch?v=cdLUzrjnlr4), and [here](https://www.youtube.com/watch?v=9zhrxE5PQgY&t=25s)
*  Read Trask's blogpost on LSTM RNNs found [here](https://iamtrask.github.io/2015/11/15/anyone-can-code-lstm/)
*  Write out a simple RNN yourself (using no ML libraries)

**Week 4 - Tooling**

*  Watch CS20 (Tensorflow for DL research). Slides are [here](http://web.stanford.edu/class/cs20si/syllabus.html). Playlist is [here](https://www.youtube.com/watch?v=g-EvyKpZjmQ&list=PLDuNt91tg0urwwTQNKyUbncSDvMEl74ww)
*  Watch my intro to tensorflow playlist [here](https://www.youtube.com/watch?v=2FmcHiLCwTU&list=PL2-dafEMk2A7EEME489DsI468AB0wQsMV)
*  Read Keras Example code to quickly understand its structure [here](https://keras.io/getting-started/sequential-model-guide/)
*  Learn which GPU provider is best for you [here](https://medium.com/@rupak.thakur/aws-vs-paperspace-vs-floydhub-choosing-your-cloud-gpu-partner-350150606b39)
*  Write out a simple image classifier using Tensorflow

**Week 5 - Generative Adversarial Network**

*  Watch the first 7 videos you see [here](https://www.youtube.com/results?search_query=generative+adversarial+network)
*  Build a GAN using no ML libraries
*  Build a GAN using tensorflow
*  Read this to understand the math of GANs, but don't worry if you dont understand it all. This is the bleeding edge [here](https://lilianweng.github.io/lil-log/2017/08/20/from-GAN-to-WGAN.html)

**Week 6 - Deep Reinforcement Learning**

*  Watch CS 294 [here](http://rail.eecs.berkeley.edu/deeprlcourse/)
*  Build a Deep Q Network using Tensorflow