Neural Networks and Deep Learning

Plan Of Action

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1.1 Objective Of The Reading Project

Objective of this reading project is formally, to understand the basics of Neural Networks and Deep Learning and then to dive deep into the Mathematics governing the basic pillars of Machine Learning and the different Neural Network frameworks. Final goal would be to implement those frameworks from scratch in **Python** and to use/deploy them in real-world-applications involving **RNN**, **CNN** and **Deep Neural Networks**

1.2 Weekwise Segregation Of Work

Week 1	Understand basic **ML** and concepts of **Neural Networks** and **Deep Learning**
Week 2	Understand the maths behind **Neural Networks** and **Deep Learning** mainly through **CS231 Stanford**
Week 3-4	Complete the **5 Coursera** courses on **Deep Learning**
Week 5	Implement various **Neural Network** frameworks from scratch
Week 6	Implement **CNN** in my **SoC** project of **Gestures for 3D Space**
Week 7-8	Implement **Deep Learning** techniques learnt so far, in other projects with real-life applications

1.3 Planned Resources To Start With

- Hands-On Machine Learning with **Scikit-Learn**, **Keras**, **TensorFlow** [AurélienGéron]
- **Deep Learning** [Ian Goodfellow, Bengio, Courville]
- **CS231** course for mathematical background of **Neural Networks** and **Deep Learning** [Stanford]