

Week 3 : Building Blocks of Neural Network

(Total video duration is nearly 2 hours. You will be required to spend 30 - 40 minutes/day along with practicing datasets and quizzes)

Deep learning has gained a lot of attention in recent years with the increase in the amount of data being generated across businesses. Deep learning algorithms have proven to work better with large data sets as compared to traditional machine learning. The rise in data and computing power has driven tremendous developments in the machine learning space, and the need to access and process large data is turning out to be increasingly significant with regard to solving real-life/business problems.

Learning Outcomes from Week-3:

SGD with Momentum

Other Variants of Gradient Descent

Weight Initialization and its Techniques

Regularization

Dropout

Batch Normalization

Types of Neural Networks

End-to-end case study

Mentor Session Duration:
2 hours

Faculty Name:
Dr. Kumar Muthuraman

No. of videos:
8

S.no	Video Name	Duration of the video(min)	Conceptual or Hands On
3.1	SGD with Momentum	17.04	Conceptual
3.2	Other variants of Gradient Descent	16.39	Conceptual
3.3	Weight initialization and its Techniques	18.14	Conceptual
3.4	Regularization	20.23	Conceptual
3.5	Dropout	16.39	Conceptual
3.6	Batch Normalization	15.24	Conceptual
3.7	Types of Neural Networks	18.50	Conceptual
3.8	Hands-on - Building Blocks of Neural Network	5.53	Hands-On

Few textbooks/Links that you can refer to:

Neural Networks and Deep Learning by Charu C Aggarwal

<https://www.deeplearningbook.org/>

<http://neuralnetworksanddeeplearning.com/chap1.html>