

GANPAT UNIVERSITY
Faculty of Engineering & Technology
U.V. PATEL COLLEGE OF ENGINEERING
B. Tech Semester VII
Computer Engineering (Artificial Intelligence)
2CEAI601: Deep Neural Network
List of Experiments

Tools – Python - Keras and Tensorflow(Open Source Library)

Sr. No	Experiments	CO Mapping
1	Implement back propagation from scratch and show the performance on any dataset.	2,3,4
2	Implement Gradient descent from scratch with Mean squared error loss function. Show its performance on any dataset with different learning coefficient values ($\eta = 0.01$ and 0.001)	3,4
3	Implement Gradient descent from scratch with cross entropy loss function for classification problem. Show its performance on any dataset with different learning coefficient values ($\eta = 0.01$ and 0.001)	3,4
4	Implement convolution layer and pooling layer from scratch and show its working on any given matrix.	3,4
5	Implement LeNet5 architecture and show its result on any dataset.	1,2,3,4,5
6	Apply various gradient descent optimization techniques specifically Momentum, Adagrad, RMS Prop and Adam and compare their results on same dataset.	2,3,4,5
7	Understand and implementation of ResNet architecture for solving suitable problem.	1,2,3,4,5
8	Implement VGG architecture and show the results on any dataset.	1,2,3,4,5
19	Demonstration of Object detection using YOLO.	1,2,3,4,5
10	Use the transfer learning for face recognition problem and show the results.	1,2,3,4,5



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