

AI LAB

Date 05/01/2025

Implement a simple deep neural network (DNN) for solving the polynomial equation $y = 5x^3 - 10x^2 - 20x + 10$ with the following specifications:

- a) Use three hidden-layers of sizes 32, 64, and 128 and display the generated DNN with the required number of parameters.
- b) Generate training samples within the range of -20 to +20. Use an appropriate method for normalizing the training data in the range of -1 to +1.
- c) Use 5% of the samples as test data and 5% of the samples as validation data and the rest of the data for training the DNN with an appropriate number of epochs.
- d) Display the training accuracy vs validation accuracy and training error vs validation error curves.