California State University San Bernardino
School of Computer Science and Engineering
CSE 5953 Undergraduate Independent Study

Date

May 20, 2022

Time

2:00 pm

Location

Zoom (Link: https://csusb.zoom.us/j/3655694855)

Title

Deep Learning: Theoretical Study and Empirical Training

Student

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Advisor

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Abstract

Deep learning is a type of machine learning technique that relies on the use of artificial neural networks. It is becoming a key machine learning approach achieving remarkable success in a wide range of fields such as computer vision, speech recognition, etc. The goal of this project is to train various neural networks using the Keras package from Tensorflow in R. The purpose is to show the diverse capabilities of deep learning. Trained networks will vary in the type of information they can interpret (Convolutional vs. Residual Networks) and will vary in the number of hidden layers (single- vs multi-layer networks). In this presentation, I will demonstrate the training of these networks along with explaining some of the statistical learning theory concepts that makes neural networks successful in learning most objective functions.