

# **Week #: 9**

**Course:** Applied Data Science with AI

**Semester:** BSSE (B) 7th

**Student Name:** IMSHA Nadeem

**Roll Number:** 2225165110

**Instructor Name:** Dr. Mohsin Nazir

**Project Title:** Student Performance Prediction

## **Reading Summary**

### **Reading Material for this Week:**

Deep Learning with Python – François Chollet

## **Key Learnings:**

1. Learned the basics of Artificial Neural Networks (ANN).
2. Understood how neural networks learn patterns using layers, neurons, and activation functions.
3. Learned how ANN can be used for prediction problems.

## **Classroom Task Documentation**

### **Task Performed in Class:**

Studied neural network concepts and learned how to build a simple ANN model using TensorFlow and Keras.

## **Weekly Assignment Submission**

**Assignment Title:** Neural Networks Basics

**Steps Taken:**

1. Selected important features (G1, G2, studytime).
2. Created a binary target variable (Pass/Fail).
3. Built and trained a simple ANN model.
4. Evaluated results and compared with earlier models.

**Challenges Faced:**

Initially understanding ANN architecture was confusing, but practice helped.

**Project Progress Milestone:**

ANN baseline model successfully implemented.

**Self-Evaluation:**

Completed all tasks and understood basic neural networks well.