Project-based Course Overview

**Welcome!**

Welcome to "***University Admission Prediction Using Multiple Linear Regression."*** This is a project-based course which should take approximately 1.5 hours to finish. Before diving into the project, please take a look at the course objectives and structure:

**Course Objectives**

In this course, we are going to focus on the following learning objectives:

*1. Understand the theory and intuition behind Multiple Linear Regression.*

*2. Import Key python libraries, dataset and perform data visualization*

*3. Perform exploratory data analysis and standardize the training and testing data.*

*4. Train and Evaluate different regression models using Sci-kit Learn library.*

*5. Build and train an Artificial Neural Network to perform regression.*

*6. Understand the difference between various regression models KPIs such as MSE, RMSE, MAE, R2, and adjusted R2.*

*7. Assess the performance of regression models and visualize the performance of the best model using various KPIs.*

**Course Structure**

This course is divided into 3 parts:

1. Project Overview: This introductory reading material will walk you through the project.
2. **Predict the chance of being admitted into a particular University using regression:** This is the hands on project that we will work on in Rhyme.
3. Graded Quiz: This is the final assignment that you need to pass in order to finish the course successfully.

**Project Structure**

The hands on project on ***University Admission Prediction Using Multiple Linear Regression*** is divided into following tasks:

**Task 1: Understand the Problem Statement**

**Task 2: Import Libraries and data-sets**

**Task 3: Perform Exploratory Data Analysis**

**Task 4: Perform Data Visualization**

**Task 5: Create Training And Testing Datasets**

**Task 6: Train And Evaluate A Linear Regression Model**

**Task 7: Train And Evaluate an Artificial Neural Networks Model**

**Task 8: Train And Evaluate A Random Forest and Decision Tree Regressors**

**Task 9: Understand the difference between regression KPIs**

**Task 10: Calculate regression model KPIs**