

# Weekly Report: Imtiaz Alpha AI

---

Week-01 (April 22 - April 25)

Machine Learning Specialization:

Course 01: Supervised Machine Learning: Regression and Classification

- a. Types of Algorithms in Machine Learning:
  - Supervised Learning
  - Unsupervised Learning
- b. Linear Regression
  - Introduction to Linear Regression
  - Cost Function and Visualization of Cost Function
  - Gradient Descent and Learning Rate
  - Gradient Descent for Linear Regression
- c. Multiple Linear Regression
  - Multiple Features
  - Vectorization for efficient calculation
  - Gradient Descent for Multiple Linear Regression
  - Feature Engineering and Feature Scaling
  - Convergence Test for Gradient Descent
  - Polynomial Regression
- d. Classification
  - Logistic Regression
  - Decision Boundary
  - Cost Function for Logistic Regression
  - Addressing Overfitting and Underfitting
  - Mitigating Overfitting and Underfitting
  - Regularized Linear Regression

The above list shows all the relative topics from Supervised Learning Course. The documentation of the course is available on [GitHub](#).

2. After completed the course 1, I have started to work on course 2 which is Advance Machine Learning. Also, I have explored the Deep ML website and will start to solve problem from week 2.