

# **Artificial Intelligent**

- Course = 32 hours per semester
  - Tutorial = 32 hours per semester
  - Assessment:
    - Attendant = 10%
    - Homework and Class Activities = 20%
    - Mini Project = 30%
    - Final Project = 40%
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- 1.1. Introduction
- 1.2. Review basic Mathematic for computation
- 1.3. Documentation on Python

### **2. Chapter 2: Linear Regression**

- 2.1. Regression model
- 2.2. Optimization
- 2.3. Hyper-parameter turning
- 2.4. Model Evaluation
- 2.5. Applied with Real Dataset

### **3. Chapter 3: Logistic Regression**

- 3.1. Logistic Regression model
- 3.2. Optimization
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- 3.5. Applied with Real Dataset (Image dataset)

### **4. Chapter 4: Image Processing**

- 4.1. Digital Image
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- 4.3. Basic Preprocessing with OpenCV, Pillow, Matplotlib library
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- 4.5. Conversion image
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### **5. Chapter 5: Deep Neural Networks (DNN)**

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- 5.2. Activation Function
- 5.3. Architecture of DNN model

- 5.4. Loss function
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- 5.6. Training Model and Evaluation
- 5.7. Hyper-parameter tuning
- 5.8. Technique for Training model

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- 6.2. CNN Intuition
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  - Image Segmentation
  - Work with Video Dataset

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- 7.2. Type of Recurrent Neural Networks (RNN)
- 7.3. Simple and Multi-layer of RNNs
- 7.4. Long Short-Term Memory (LSTM)
- 7.5. Application