

## 1. 機器學習基本概念

- 機器學習任務及分類
- 資料集及其處理方式
- **Generalization and overfitting**
- 常見機器學習方法

## 2. 神經網路的結構(基礎知識，常見種類、優缺點)

- **Layers**
- **Loss**
- **Activations**
- **Architectures(LSTM, CNN, Resnet, MobileNet, etc.)**

## 3. Optimization

- **Backpropagation**
- **Gradient descent**
- 常見用於深度學習的 **optimizer**

## 4. 實作工具

- **Programming Language Basics (Python)**
- **numpy, scipy**
- **Deep learning framework(TensorFlow or PyTorch)**

## 5. 2D Image filtering

## 6. Edge detections in 2D images

## 7. Clustering (Machine Learning)

## 8. Pinhole camera model basics

## 9. Various projection models of cameras - e.g., canonical, perspective, and weak-perspective.

## 10. SLAM basics