AI

Requirements

- Network types
  - Convolution layers
  - Fully connected layers
  - An Auto-encoder
  - Combination of above or any others
- Weights
  - Pre-trained
  - Scratch
- Performance evaluation (preferably plots)
  - Error rates
  - ROC curves
  - Accuracy
  - Precision
  - Recall

> **NOTE** Creativity will be rewarded: * Visualize intermediate outputs * Show failed samples

- Parameters
  - number of layers
  - non-linear activation functions
  - loss functions
  - types of pooling
  - spatial extent (size)
  - number of filters
  - learning rate
  - batch size
  - no of epochs
  - kernel size

Report

- Model

- ◦ summary/picture
- Parameters
  - ◦ Types
    - ▪ Convolution Layers
    - ▪ Fully connected Layers
    - ▪ Auto-encoders
    - ▪ Mix
  - ◦ Model
    - ▪ number of layers
    - ▪ non-linear activation functions
    - ▪ loss functions
    - ▪ types of pooling
    - ▪ spatial extent (size)
    - ▪ number of filters
    - ▪ learning rate
    - ▪ kernel size
  - ◦ Training & Testing params
    - ▪ batch size
    - ▪ no of epochs
- Results
  - ◦ Pictures
    - ▪ Visualize intermediate outputs
    - ▪ Show failed samples
  - ◦ Confusion matrix
  - ◦ Plots
    - ▪ Error rates
    - ▪ ROC curves
    - ▪ Accuracy
    - ▪ Precision vs Recall
- Explain results