Artificial Intelligence (AI)

1. Introduction to Machine Learning (ML)
    - 1.1. Supervised
        - 1.1.1. Regression
            - 1.1.1.1. Simple Linear Regression
            - 1.1.1.2. Multiple Linear Regression
            - 1.1.1.3. Polynomial Regression
        - 1.1.2. Apply Regression on Dataset
        - 1.1.3. Classification
            - 1.1.3.1. Logistic Regression
            - 1.1.3.2. K-nearest neighbor (KNN)
            - 1.1.3.3. Decision Tree
            - 1.1.3.4. Support Vector Machine (SVM)
            - 1.1.3.5. Random Forest (RF)
        - 1.1.4. Apply Classification on Dataset
        - 1.1.5. Hyper-parameter optimization of ML
    - 1.2. Unsupervised
        - 1.2.1. Cluster Analysis
        - 1.2.2. Dimensionality Reduction
2. Introduction to Artificial Neural Network (ANN)
    - 2.1. Perceptron
    - 2.2. Simple Neural Network
    - 2.3. Activation Functions
    - 2.4. Loss and Optimizers
3. Backpropagation
    - 3.1. Weight Updates
    - 3.2. Hyper-parameter Optimization
4. Convolutional Neural Network (CNN)
    - 4.1. Image Data
    - 4.2. Filter
    - 4.3. Padding and Strides
    - 4.4. Pooling Layer
5. Natural Language Processing (NLP)
    - 5.1. Text Vectorization
    - 5.2. Stop words
    - 5.3. Stemming
    - 5.4. Lemmatization
    - 5.5. Bagging
    - 5.6. TF-IDF
6. Final Project on AI