

- Machine Learning Concepts in hierarchy
 - Feature Selection techniques
 - Forward selection
 - Backward Selection
 - Bidirectional Selection
 - Feature Reduction Techniques
 - PCA
 - Feature Scaling [Link](#)
 - Min-Max
 - Mean Normalization
 - Standardization (Z-score Normalization)
 - Scaling to unit length
 - Sequential Modelling Algorithms
 - HMMs : Generative models - $P(X,Y)$
 - CRFs: Discriminative models - $P(y/x)$: (Sequential Version of Logistic Regression) [Link](#)
 - Linear chain CRFs : Consider only $i-1$ label
 - General CRFs
 - RNN
 - LSTM
 - GRU
 - Classical Classification Algorithms
 - Logistic Regression (Its Regression as it outputs probability of class labels)
 - Naive Bayes
 - SVM (can be used only for classification and it directly predicts class labels on the basis of hyperplanes and support vectors)
 - Linear Kernel
 - RBF Kernel
 - Polynomial Kernel
 - Decision Trees (Regression as well as classification)
 - Bag of classifiers (Bagging)
 - Random Forests
 - Boosting Based classifiers
 - XGBoost (Framework known as Xtreme Gradient Boosting)
 - AdaBoost
 - Gradient Boosting
 - Stochastic Gradient Boosting

- Regularized Gradient Boosting
- Clustering Techniques
 - K-Means
 - K-medoid
 - DBSCAN
 - Agglomerative
 - Divisive
 - Genetic Algorithms
- Regularization
 - L1 regularization
 - L2 Norm
- Similarity measures [Nice blog](#)
 - Euclidian distance(L2 Norm)
 - Manhattan Distance(L1 Norm)
- MultiLabel classification [Nice blog](#)