Machine Learning

Agenda ÷

1. Be on time

2. Machine Learning Topics

3. Common Questions asked from ML

4. Interview Question from Componies.

Introduction to Machine Learning

1. Definition in ML

- Supervised
- Unsupervised
- Semisuperised
- Reinforcement

Supervised Machine Learning

2. Regression

Linear Regression

Logistic Regression

Rrdge & Lasso $\Rightarrow$ L1 L2

Evaluation Metrics in regression

3. Classification

Decision Tree

Random Forest

SVM

K-nearest neighbour

Naive Bayes

Perfomence matrix (Accuracy , RoC , Fl score, Precision
Recall, AUC)

Unsupervised Machine Learning

K-means Clustering.

Herrarichal

DBSCAN
Agglemorrive

Evaluation of clusting model [Silhoutte score]

Dimensionality Reduction

PCA [Principle Component Analyses]

t-SNE

LDA

Ensemble Methods

Bagging   Boosting

RF   Ada Boost
                                               xG Boost
                                               Gradient BooTing
                                               Catboost

Feature Engineering

1) Feature Selection

Filter
Wrapper
Embedded

Handling Categorical Data

⇒ One hot encoding
⇒ Label Encoding

Feature Scaling

Normalization
Standardization

Model Evaluation & Selection

Cross-validation

⇒ K-fold Cross ~~validation~~

Bias-Variance Tradeoff

Model Selection

⇒ Grid search
⇒ Random search
⇒ Bayesian optimization

Specialized Topics

Time Series Analysis

Recommend System

Python Libraries

numpy   Scikit Learn   Matplotlib

Pandas   Tensor Flow   scipy

Anomally Detection

Z-score

One-Class SVM

Vij