Tajamul Khan

Machine Learning

Cheat Sheet

Types of Machine Learning

SUPERVISED LEARNING	UNSUPERVISED LEARNING	REINFORCEMENT LEARNING

Regression
- Linear
- Polynomial
- Ridge ,
- Lasso ,
- Decision Tree,
- Random Forest,
- SVR
- XGBoost

Classification
- Logistic
- Decision Tree
- Random Forest
- SVM
- k-NN
- Naïve Bayes
- XGBoost
- Neural Networks

Clustering
- k-Means,
- Hierarchical
- DBSCAN,
- GMM
- Mean Shift

Dimensionality
- k-Means,
- Hierarchical
- DBSCAN,
- GMM
- Mean Shift

Reward-based learning
- Q-Learning
- Deep Q-Networks (DQN)
- SARSA (State-Action-Reward-State-Action)
- Policy Gradient Methods
- Actor-Critic Methods
- Proximal Policy Optimization (PPO)
- Trust Region Policy Optimization (TRPO)
- Monte Carlo Methods

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Data Preprocessing

df.isnull().sum(): Check missing values

df.dropna(): Remove missing values

df.fillna(value): Fill missing values

StandardScaler(): Standardization (mean=0, std=1)

MinMaxScaler(): Normalization (range [0,1])

LabelEncoder(): Convert categorical labels to numbers

OneHotEncoder(): Convert categorical features into dummy variables

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