CHEAT SHEET

Logistic Regression

Algorithm Name	Logistic regression
Description	Logistic regression is a probabilistic linear model. In essence, a logistic regression classifier produces the probability $P(y = 1\|X)$ via the inverse logit (sigmoid) function.
Applicability	Binary classification problems
Assumptions	None
Underlying Mathematical Principles	• Linear classification model • Inverse logit function • Log loss function
Additional Details	• You can use gradient descent to find the optimal solution and you can tune the learning rate. • Logistic regression uses regularization to reduce model complexity. You can tune hyperparameter C to adjust the penalty.
Example	Predict whether a candidate will win an election based on features such as campaign funds, poll results, if the candidate is currently in office or not, etc.