Boosting-2

Assignment Questions

PW SKILLS

Q1. What is Gradient Boosting Regression?

Q2. Implement a simple gradient boosting algorithm from scratch using Python and NumPy. Use a simple regression problem as an example and train the model on a small dataset. Evaluate the model's performance using metrics such as mean squared error and R-squared.

Q3. Experiment with different hyperparameters such as learning rate, number of trees, and tree depth to optimise the performance of the model. Use grid search or random search to find the best hyperparameters

Q4. What is a weak learner in Gradient Boosting?

Q5. What is the intuition behind the Gradient Boosting algorithm?

Q6. How does Gradient Boosting algorithm build an ensemble of weak learners?

Q7. What are the steps involved in constructing the mathematical intuition of Gradient Boosting algorithm?

Note: *Create your assignment in Jupyter notebook and upload it to GitHub & share that github repository link through your dashboard. Make sure the repository is public.*