

# Documentation

Detailed Documentaion is Available inside the file given below

## Documentaion

### Documentation Summary

- Three machine learning pipelines are defined: Ridge Regression, Lasso Regression, and Linear Regression, each with specific data scaling steps
- Hyperparameter grids are set up for Ridge and Lasso Regression to optimize model performance
- Evaluation metrics include MSE,  $R^2$ , MAE, and RMSE for comprehensive model assessment
- GridSearchCV is used to iterate through models, perform cross-validation, and select the best-performing model based on  $R^2$  score
- Models are systematically evaluated on training, validation, and test datasets to assess performance and generalization capabilities
- The evaluation process helps in monitoring overfitting, underfitting, and predicting real-world performance