Support Vector Machine Report

# Model Description

Algorithm: Support Vector Machine

Hyperparameters: C=1.0, gamma=0.1, kernel=rbf

Note: Data was normalized before training and predictions were denormalized for evaluation.

# Performance Metrics

|  |  |  |
| --- | --- | --- |
| Metric | Training | Testing |
| R-squared | 0.9481 | 0.9492 |
| RMSE | 0.1786 | 0.1993 |
| MAE | 0.1260 | 0.1389 |

# Feature Importance

Feature importance was calculated using a permutation-based approach. This method measures how much the model's performance decreases when each feature is randomly shuffled.

|  |  |
| --- | --- |
| Feature | Importance (%) |
| petal width (cm) | 56.45 |
| petal length (cm) | 32.38 |
| sepal width (cm) | 8.47 |
| sepal length (cm) | 2.70 |