

Class Activity 2 - Python :

Class Activity Question (with mandatory hyperparameter tuning):

Using the Wine dataset from scikit-learn, complete the following steps:

- Load and explore the dataset, reporting the main features and target classes.
- Split the data into training and test sets.
- Train both a Logistic Regression and a Random Forest classifier on the training set.
- Evaluate and compare the performance of both models using accuracy and cross-validation scores.
- Analyze and visualize feature importance for both classifiers.
- **Conduct hyperparameter tuning for both models using GridSearchCV and RandomizedSearchCV. Report the best parameters found and the corresponding performance.**
- After tuning, compare which model performs best and whether the most important features agree between the two models.
- Summarize your methodology, code, and findings.