Core Libraries for Machine Learning and Data Analysis

- **Scikit-learn:** This is the primary library used for building and evaluating all the machine learning models in this project, including the Support Vector Machine and Random Forest Classifier.
- **Pandas:** An essential library for data manipulation, cleaning, and analysis, used to handle the dataset.
- **Numpy:** The fundamental package for numerical computing in Python, crucial for array operations and handling numerical data.

Imbalance Handling

- **Imbalanced-learn:** A critical library used to address class imbalance in the dataset with techniques like SMOTE (Synthetic Minority Over-sampling Technique), which is vital for building a robust classification model.

Visualization Libraries

- **Matplotlib:** A foundational plotting library used to create static, animated, and interactive visualizations, such as the confusion matrix.
- **Seaborn:** Built on top of Matplotlib, this library provides a high-level interface for creating attractive and informative statistical graphics.

Development Environment

- **Jupyter:** The interactive computing environment used to run the `.ipynb` notebook file.
- **Ipykernel:** Provides the Python kernel that allows the Jupyter Notebook to execute the code.