Support Vector Machine Analysis

The Support Vector Machine algorithm is used for regression and classification problem.
In this project, SVM algorithm is used ot anlayse the dataset on dating in the modern world. This dataset lists the important attributes o fhte individual such as gender, Ambitiousness, Fun, Intelligence, etc. in order to decide wether he/ she is a perfect match or not.

Approach

This project focuses on using the SVM algorithm by implementing the following approach,

1. Data preprocessing: The dataset was loaded and prepared using Pandas, separating it into features and target variables.

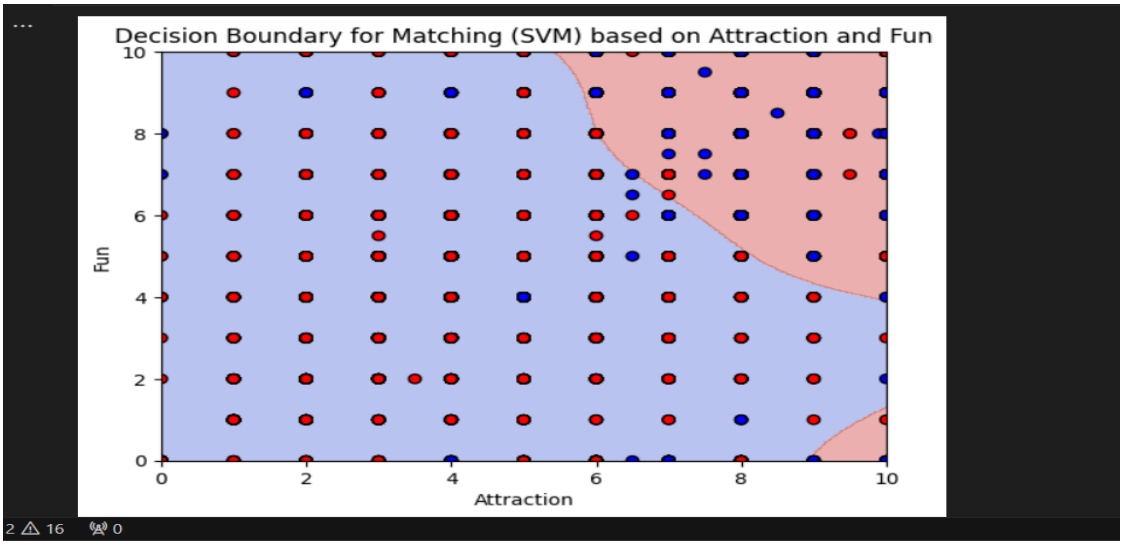
2. Machine learning implementation: The data was divided into training (80%) and testing (20%) sets using scikit-learn. An SVM classifier was then implemented and trained on the training data.

3. Model optimization: Different SVM parameters were experimented with to maximize the accuracy score on the test data.

4. Performance evaluation: The model's accuracy score was calculated and analyzed to assess its predictive power.

5. Data visualization: A scatter plot of attractiveness versus fun was created using matplotlib, including the SVM decision boundary to visually separate matched and unmatched individuals.

Decision Boundary Display



The problem expected an output of a graph plot which will plot **attractiveness** and **fun**, with a **decision boundary**

Decision Boundary is a boundary which will separate matched with unmatched, based on our trained SVM.