Videos likes project

**1-preprocessing: -**

In this phase We made preprocessing with three techniques: -

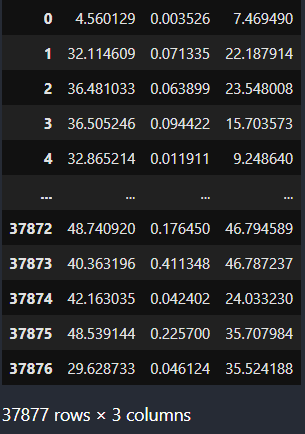
1. Feature selection: -

We choose the wrapper method with forward selection to get the best features to work with and the result was the three features as the figure shown below.



1. Feature scaling: -

We set the fixed ranges from 0 to 50.



**2-Classification techniques: -**

1. **Logistic regression: -**

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1. **Svm-poly: -**





* **Hyperparameter tuning: -**

1. We increased the degree and regularization parameter (c) was fixed.
2. We increased the regularization parameter and the degree was fixed.

From 1,2 we got the below table.

Table

Description automatically generated

1. **Svm-linear: -**





* **Hyperparameter** **tuning**: -

1. We increase the regularization parameter and the result was shown in the table below.

Table

Description automatically generated with medium confidence

1. **Svm-rbf: -**





* **Hyperparameter tuning: -**

1. We increased variance (gamma) while the regularization parameter was fixed and gets the result shown in the table below.

Table

Description automatically generated

1. **Decision tree: -**





**2-Conclusion: -**

1. **Bar graphs: -**

Chart, bar chart

Description automatically generated

Chart, bar chart, histogram

Description automatically generatedChart, bar chart, histogram

Description automatically generated

1. **Models used: -**
2. Logistic regression.
3. Svm with polynomial kernel.
4. Svm with linear kernel.
5. Svm with rbf kernel.
6. Decision tree.

The best model to use was the **Decision tree**  as it gets the highest accuracy (89%).