INeuron

MUSHROOM CLASSIFICATION (MACHINE LEARNING)

Project Member:

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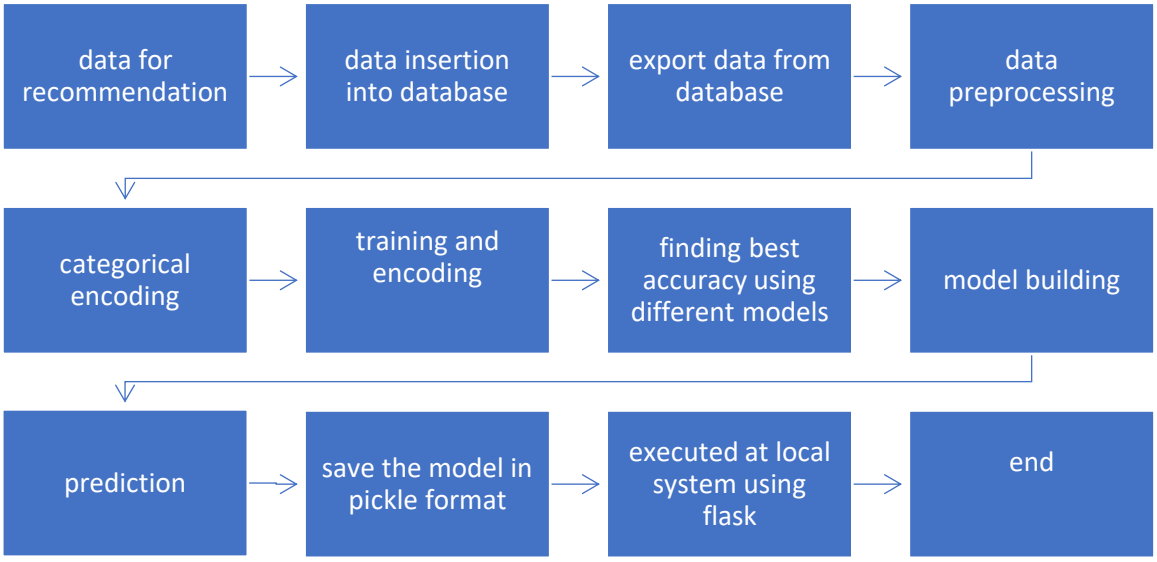
Introduction: Low-level design is a **detailed description of every module of software**. It describes every module in detail by incorporating the logic behind every component in the system. It delves deep into every specification of every system, providing a micro-level design. Low-level designs are created and implemented by designers and developers.

Architecture Flow:



Architecture Description:

1. DATA DESCRIPTION: 8124 rows and 23 columns were present on the dataset,from Kaggle the dataset were exported it was on the csv format.

2.DATA INSERTION INTO DATABASE:

a) Database creation and connection-create a database with name passed if the database is already created,open the connection to the database.

b) Table creation in the database.

c) Insertion of files in the table.

3.EXPORT DATA FROM DATABASE:

Data export from database-The data in s atored database is exported as a csv file to be used for data Pre-Processing and model training.

4.DATA PRE-PROCESSING

Data pre processing steps we could use are null value handling stop words removal, punctuation removal, Tokenization, Lemmatization, TFIDF, Imbalanced dataset Handling, Handling columns with standard deviation zero or below a threshold, etc.

5.ML ALGORITHM

All the ML algorithm is used to do classification and found the best model for that.

6.CATEGORICAL ENCODING

All the dataset available on dataset was not on numerical, so that has been converted on numerical terms, which will be easy to do model building.

7.TRAINING AND TESTING DATASET

As here 80% of dataset has been trained and 20% of dataset has been tested.

8.FINDING ACCURACY WITH DIFFERENT MODEL

All the supervised machine learning algorithm were used to classify the output such as logistic regression, K Neighbours,

SVC, Decision tree, Random forest, Gradient boosting Classifier, etc. found accuracy with every models.

9.MODEL BUILDING

After checking accuracy with different model, model building was created with the best accuracy and saved the model in pickle format.

10. WEB FRAMEWORK

By using flask API on the local system it been tested.

CONCLUSION

This is web based application. We have used flask for the user interface. We can put all the features of the mushroom as a input and can check whether the mushroom is poisonous or edible.