

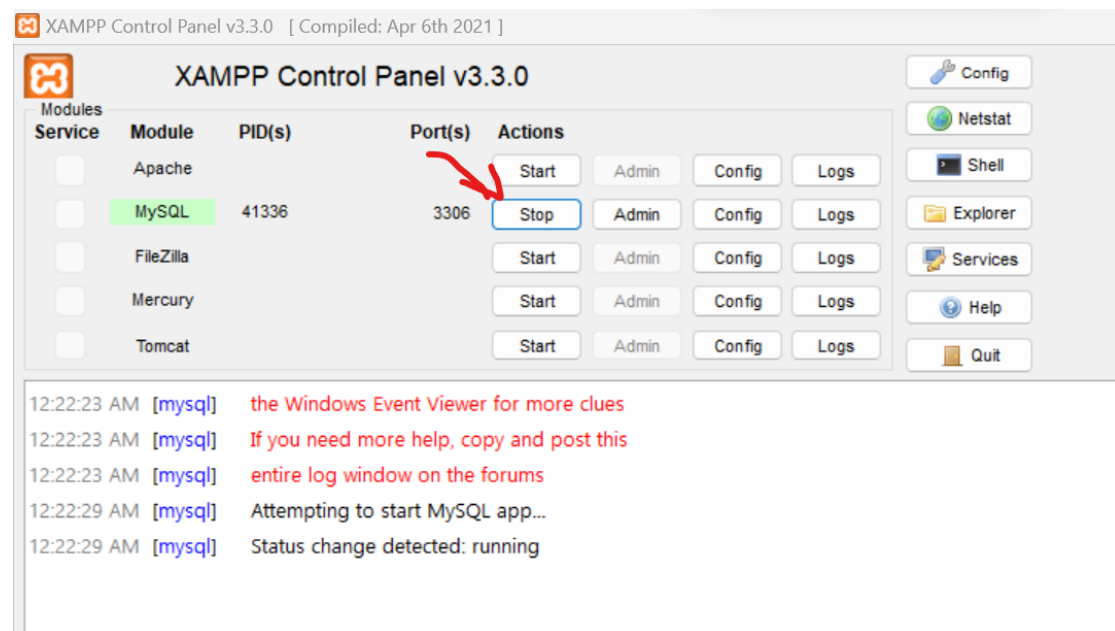
Instructions for running crop yield prediction:

For this project to run, one needs to have VisualStudio Code, SQL Yog Community edition and XAMPP server for windows and the links have been given below.

Import the code from the folder that you have specified into VisualStudio Code. Use virtual environment. Open XAMPP Server and start the MySQL, to connect to crop_yield database.

LINK TO DOWNLOAD XAMPP

https://r.search.yahoo.com/_ylt=Awrx_qzM_ndl7cMHny.7HAX.;_ylu=Y29sbwNzZzMEcG9zAzEEdnRpZAMec2VjA3Ny/RV=2/RE=1702391628/RO=10/RU=https%3a%2f%2fsourceforge.net%2fprojects%2fxampp%2ffiles%2fXAMPP%2520Windows%2f8.2.4%2fxampp-windows-x64-8.2.4-0-VS16-installer.exe%2fdownload/RK=2/RS=g6xxMMC.yCQDHJJpjjvzrAwKjk-



LINK TO DOWNLOAD SQL YOG

https://s3.amazonaws.com/SQLyog_Community/SQLyog+13.2.0/SQLyog-13.2.0-0.x64Community.exe

After downloading, open the SQL Yog server. In file, create a new connection in the SQL yog by giving the user name as root, leave blank for password and save it, and port number as 3306 and remaining as given in below diagram and then connect.

Connect to MySQL Host

New... Clone... Save Rename... Delete

Saved Connections ☐ New Connection 3

MySQL HTTP SSH SSL Advanced

MySQL Host Address localhost

Username root

Password ☒ Save Password

Port 3306

Database(s)

(Use ';' to separate multiple databases. Leave blank to display all)

☒ Use Compressed Protocol

Session Idle Timeout ☒ Default ☐ 28800 (seconds)

Keep-Alive Interval (seconds)

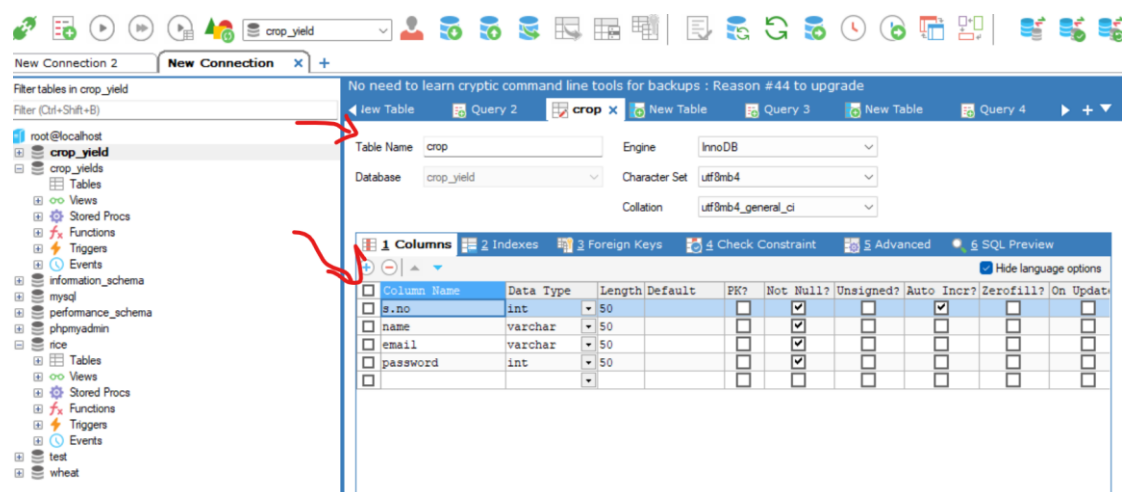
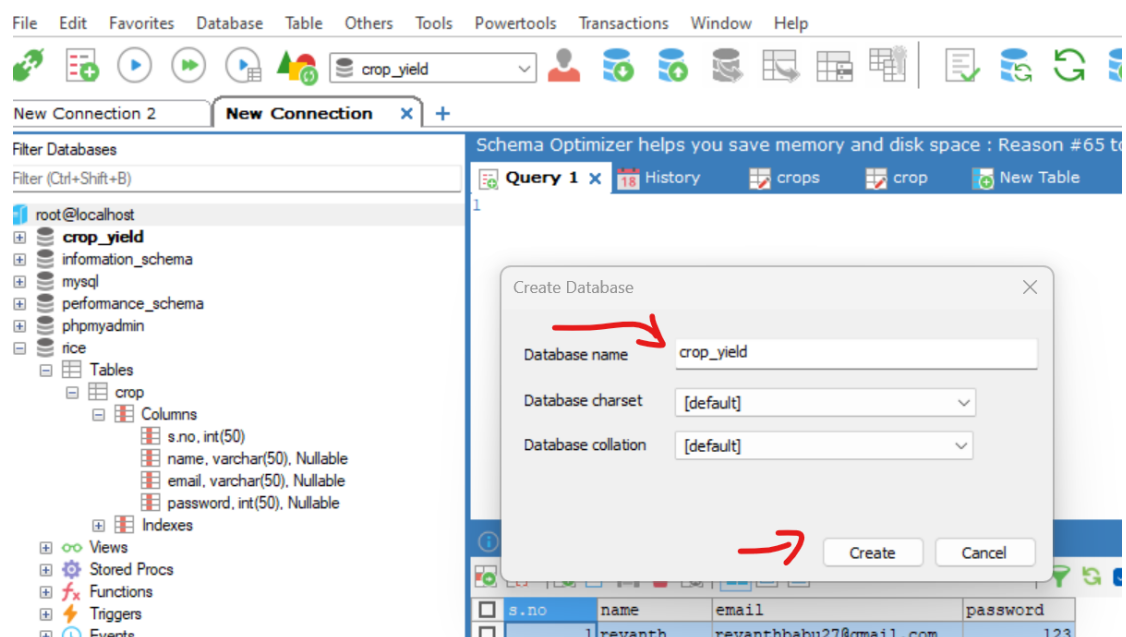
[Need Help?](#)

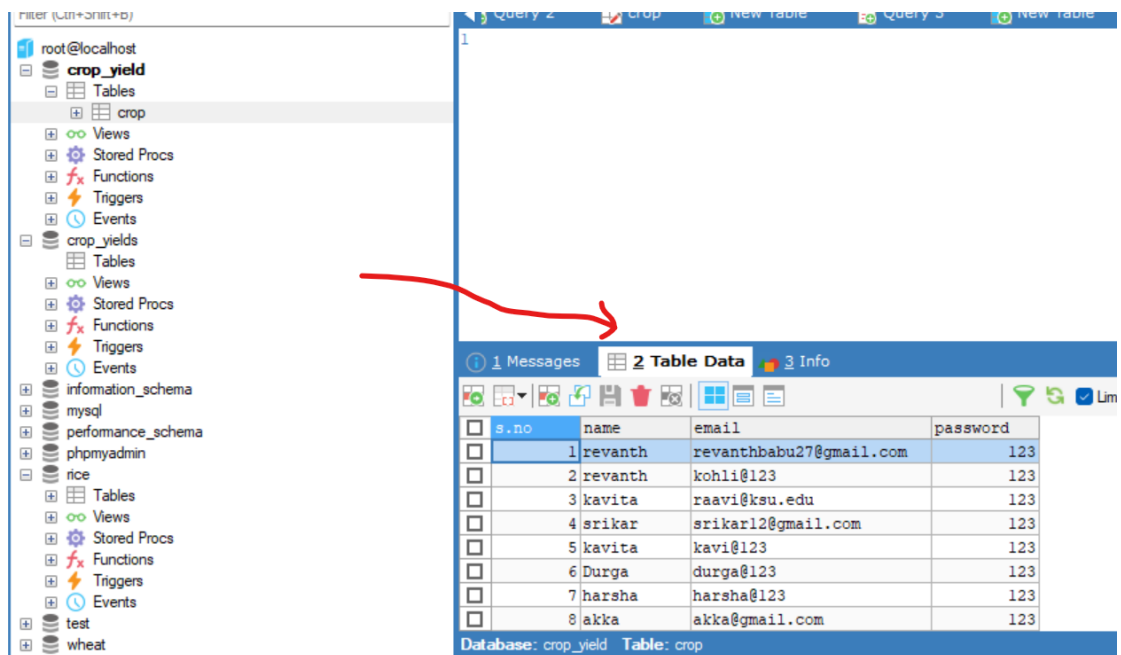
Connect Cancel Test Connection

Create a database crop_yield by giving right-click on root@localhost and inside crop_yield database, right click on table and create table crop and give the below fields in columns and then save for the purpose of registration and login.

1. S.no - int, not null, auto-increment
2. Name -varchar, not null
3. E-mail -varchar, not null
4. Password -int, not null.

Creating database once is enough, so that whenever the new user login credentials are provided, it is going to store in the database. For checking, In the database crop_yield, inside table, right-click on crop and open table and open table data and refresh to see the updated data.





Make sure to run all these libraries in terminal one by one, before executing the main application.

Pip install flask

Pip install pandas

Pip install mysql-connector

Pip install scikit-learn

Pip install matplotlib

```
Project ▾
Structure Alt+7
  static
  templates
  app.py
  External Libraries
  Scratches and Consoles

app.py
1 from flask import Flask,render_template,request
2 import pandas as pd
3 import mysql.connector
4 import numpy as np
5 from sklearn.model_selection import train_test_s
6 from sklearn.ensemble import BaggingRegressor
7 from sklearn.svm import SVR
8 from sklearn.neighbors import KNeighborsRegressor
9 from sklearn.tree import ExtraTreeRegressor
10
11
12

Terminal Local x
from flask import Flask,render_template,request
ModuleNotFoundError: No module named 'flask'
(venv) PS C:\Users\AVITA\Revanth_CIS890\crop_yield_prediction\code> Pip install flask
Collecting flask
Obtaining dependency information for flask from https://files.pythonhosted.org/packages/36/42/015c236
805a571a3bea44362fe87e33fc3afa01f/flask-3.0.0-py3-none-any.whl.metadata
Using cached flask-3.0.0-py3-none-any.whl.metadata (3.6 kB)
```

Run the main application (app.py) by using the command -> python app.py

Then it runs and gives development server and click on it and it redirects to user interface

```
Project ▾
code C:\Users\AVITA\Revanth_CIS890\crop_yield_prediction
  data base
  static
  templates
  app.py
  External Libraries
  Scratches and Consoles

app.py
1 from flask import Flask,render_t
2 import pandas as pd
3 import mysql.connector
4 import numpy as np
5 from sklearn.model_selection imp
6 from sklearn.ensemble import Bag
7 from sklearn.svm import SVR
8 from sklearn.neighbors import KN
9 from sklearn.tree import ExtraTr
10
11
12

Terminal Local x
127.0.0.1 - - [11/Dec/2023 23:41:13] "GET /static/assets/js/custom.js HTTP/1.1" 304 -
127.0.0.1 - - [11/Dec/2023 23:41:13] "GET /static/assets/images/home.jpg HTTP/1.1" 304 -
(venv) PS C:\Users\AVITA\Revanth_CIS890\crop_yield_prediction\code> python app.py
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a
* Running on http://127.0.0.1:5000
```



. If you are a first time user go for signup and register the details and if you a old user go to sign in. Remember that email should be in form @gmail.com and password is 123 which is common. This is for security purposes that all cannot access.



×

Enter Your Name

revanth

Enter Your Email

revanth@gmail.com

Enter Password

...

Confirm Password

...

Register

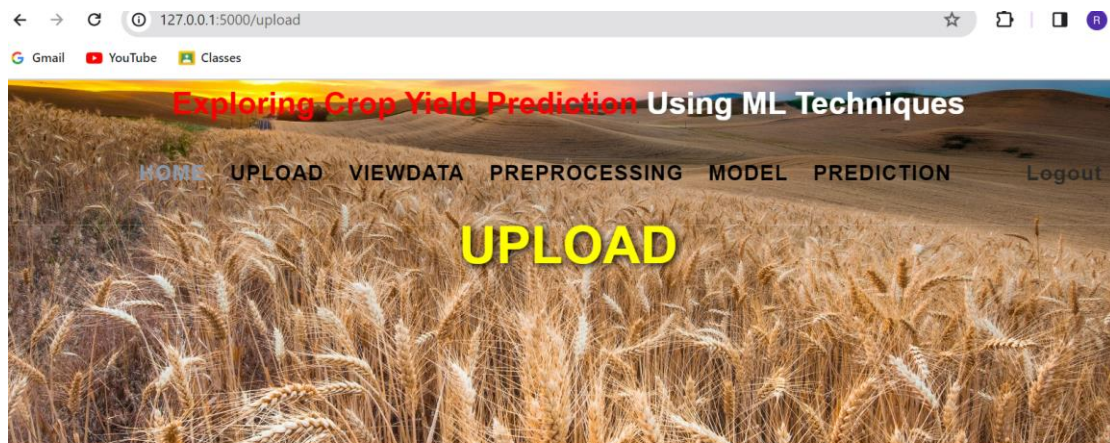


Enter Your Email

Enter Password

Login

This redirects to home page in which it contains all steps that needs to be followed one by one. Go to Upload button and upload the dataset named as Revanth_data.csv.



Select the Dataset

→

Choose File

Revanth_data.csv

Submit

View the sample data on viewpage.

← → ↻ 127.0.0.1:5000/viewdata ☆ 📁 📄

Gmail YouTube Classes

Exploring Crop Yield Prediction Using ML Techniques

HOME UPLOAD VIEWDATA PREPROCESSING MODEL PREDICTION Logout

Display of Uploaded Dataset

	State	Year	Season	Crop	Area	Production	Rainfall
0	AndamanandNicobarIslands	2000	Kharif	Arecanut	1254.0	2000.0	2763.2
1	AndamanandNicobarIslands	2000	Kharif	OtherKharifpulses	2.0	1.0	2763.2
2	AndamanandNicobarIslands	2000	Kharif	Rice	102.0	321.0	2763.2
3	AndamanandNicobarIslands	2000	WholeYear	Banana	176.0	641.0	2763.2
4	AndamanandNicobarIslands	2000	WholeYear	Cashewnut	720.0	165.0	2763.2
5	AndamanandNicobarIslands	2000	WholeYear	Coconut	18168.0	65100000.0	2763.2
6	AndamanandNicobarIslands	2000	WholeYear	Dryginger	36.0	100.0	2763.2
7	AndamanandNicobarIslands	2000	WholeYear	Sugarcane	1.0	2.0	2763.2
8	AndamanandNicobarIslands	2000	WholeYear	Sweetpotato	5.0	15.0	2763.2
9	AndamanandNicobarIslands	2000	WholeYear	Tapioca	40.0	169.0	2763.2
10	AndamanandNicobarIslands	2001	Kharif	Arecanut	1254.0	2061.0	3080.9

Assign split percentage as 20 as it is how we assign training data as 20 % for ML models.

← → ↻ 127.0.0.1:5000/preprocessing ☆ 📁 📄

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Exploring Crop Yield Prediction Using ML Techniques

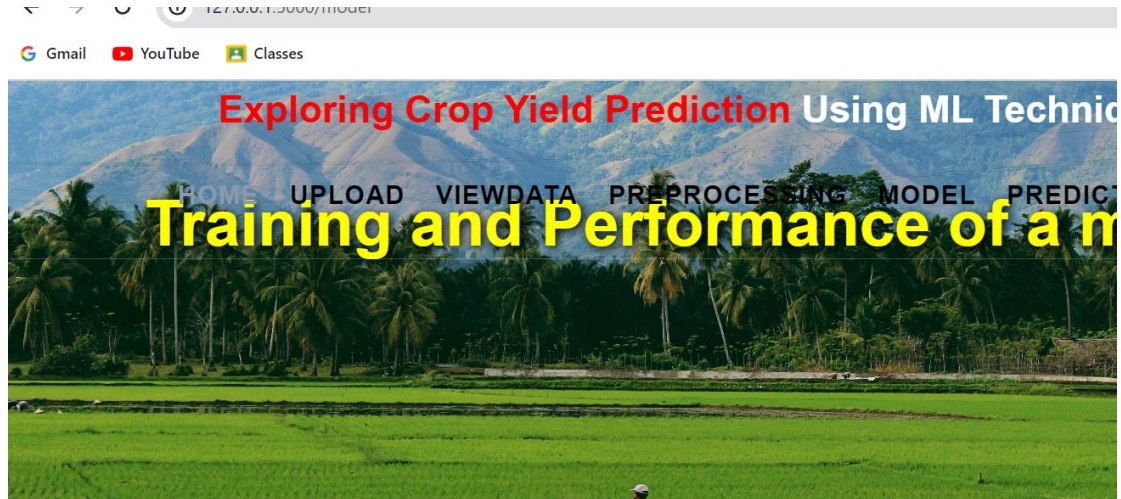
HOME UPLOAD VIEWDATA PREPROCESSING MODEL PREDICTION Log

Preprocess and Split the Data

ENTER THE SPLIT PERCENTAGE:

20

Go to model and can observe the performance of $r2_score$ of models. Here although there are minor fluctuations in $r2_score$ for bagging and extra -tree regressor, after taking average value, extra-tree regressor showed better accuracy. Also checked the prediction value between bagging and extra-tree regressor which showed extra-tree regressor tested value is near to actual value than bagging regressor value.

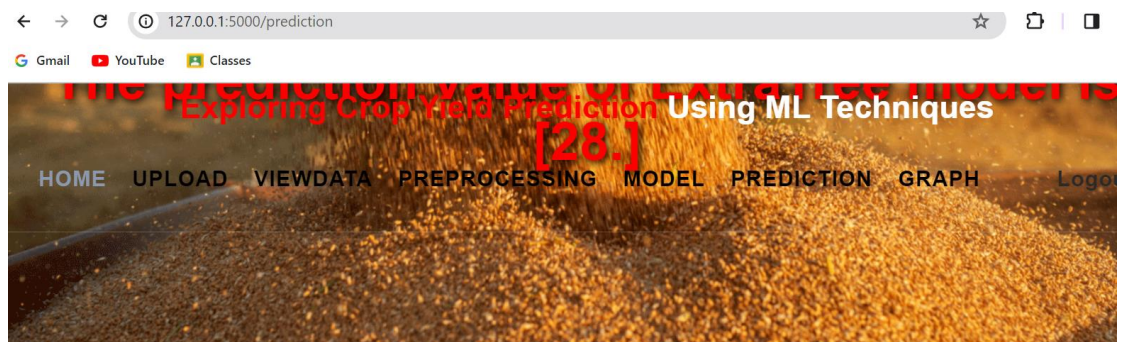


SELECT YOUR ALGORITHM

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In prediction assign all the data from dataset and check prediction value.

For example for one field, the actual yield value is 32 whereas tested yield value is 28 which almost matches.



SELECT YOUR ALGORITHM

▼

▼ ▼ ▼ ▼

Similarly, you can try for this data

Arunachal Pradesh, 2005, rabi, wheat, 32, 2335, the actual yield is 48 and tested value will also be around that.

In graph, one can see difference for $r2_score$ and time for all models.



Then it is the end, one can logout which again redirects to homepage.

Kindly let me know if any issue occurs. Thankyou.