

WEB X CA

PREREQUISITES – Flower Prediction

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Title : Flower Prediction

Introduction:

Flower Prediction is a machine learning-based web application that classifies flowers into species based on petal and sepal features using popular datasets like the Iris dataset. Built using Flask for the backend and optionally a simple HTML/CSS/JavaScript frontend, the system utilizes a trained ML model to provide accurate real-time predictions. Users can input features, and the system will display the predicted flower species with high accuracy.

System Requirements

1. Hardware Requirements:

- **Processor:** Intel Core i5 / AMD Ryzen 5 or higher (dual-core, 2.0 GHz or faster)
- **RAM:** Minimum 8GB (16GB recommended)
- **Storage:** At least 1GB free space (256GB SSD recommended)
- **Network:** Stable internet connection (especially for MongoDB Atlas users)

2. Software Requirements:

- **Operating System:** Windows 10/11, macOS 10.15+, or Ubuntu 20.04+
- **Code Editor:** Visual Studio Code or compatible IDE
- **Version Control:** Git 2.25+
- **Python:** Version 3.8 or higher

Technology Stack

Layer	Technology
Frontend	HTML/CSS/Typescript(or Streamlit/Flask Templates)
Backend	Flask (Python 3.8+)
ML Model	Scikit-learn
Styling	SCSS / Bootstrap (optional)
APIs	RESTful Flask APIs

Setup Instructions :

Backend Steup:

First Navigate to backend folder:

- Cd project

Python & Flask:

1. Install Python 3.8+ from <https://www.python.org/downloads/>. Ensure 'Add to PATH' is checked during installation.

2. Create Virtual Environment:

```
python -m venv venv venv\Scripts\activate
```

```
# For Windows source venv/bin/activate #
```

For macOS/Linux

3. Install Dependencies:

```
pip install -r requirements.txt
```

4. Run Flask App: `python app.py`

The app will run at: <http://localhost:5000>

Frontend Setup

1. Navigate to frontend folder:

```
cd project
```

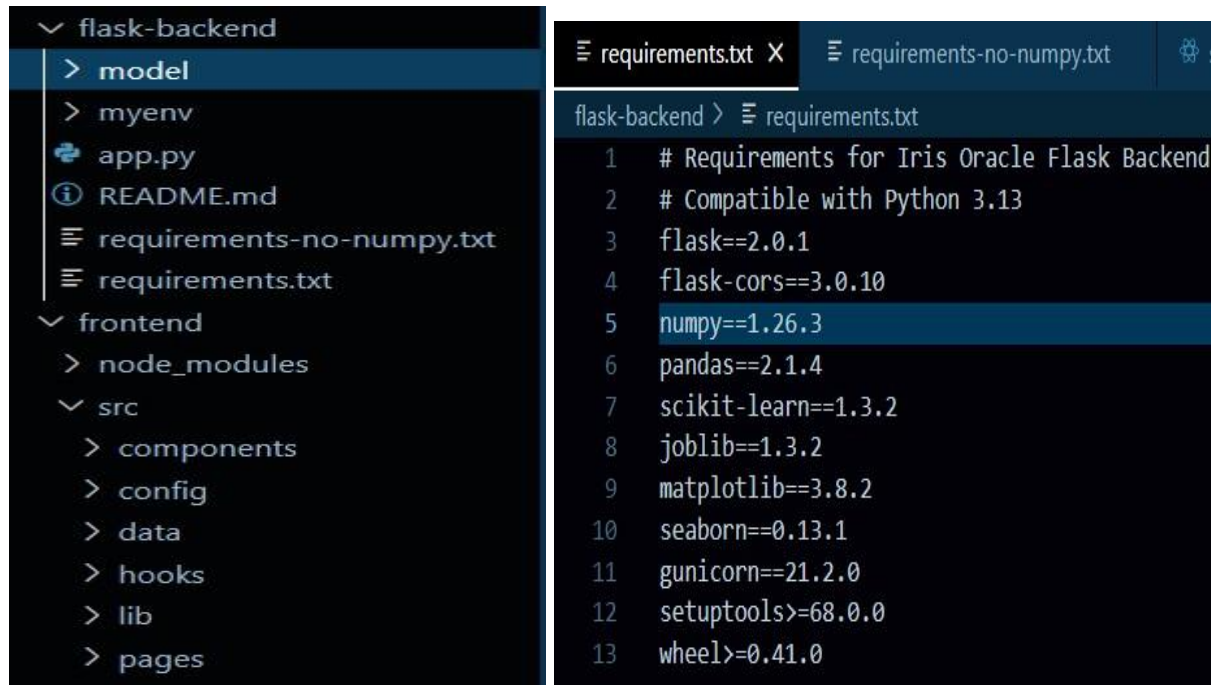
2. Install dependencies:

```
npm install
```

3. `npm run dev`

Frontend will run at: <http://localhost:8081>

Project Structure



Features Overview

- Input Form: Users enter flower features (petal/sepal length and width)
- Prediction: Model predicts flower species (e.g., Setosa, Versicolor, Virginica)
- Responsive UI: Clean and user-friendly interface
- Model Integration: Seamless ML model usage with Flask

Conclusion:

By completing the above installations and setup steps, your system will be fully ready to run the Flower Prediction application. Accurate installation of Python, Flask, and the ML dependencies ensures a smooth development and testing experience.