Crop Recommendation

Sprint 2 Mini Project

Project Team:

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About the Business Case?

- Precision agriculture is in trend nowadays.
- It aids the farmers make data driven decisions about the farming strategy.
- We will build a predictive model to recommend the most suitable crops to grow in a particular farm based on various parameters.
- So, the models we will be using would be in the domain: ‘Multiclass Classification Problem’.

About the Dataset

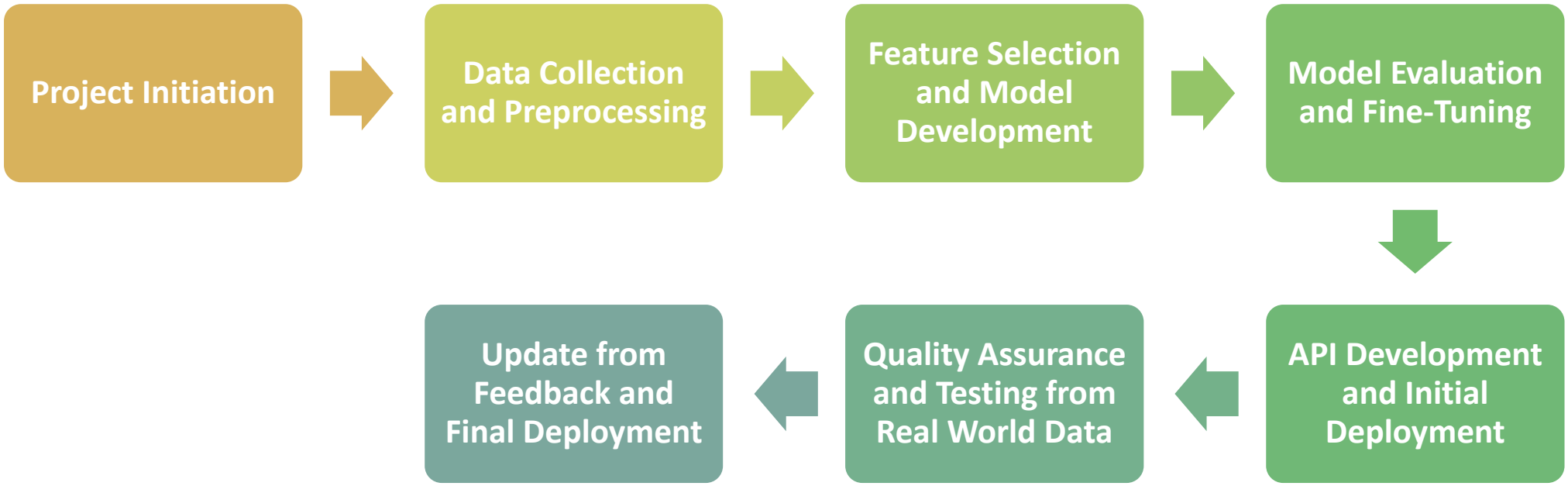
This dataset was built by augmenting datasets of rainfall, climate and fertilizer data available for India.

Data fields

- N - ratio of Nitrogen content in soil
- P - ratio of Phosphorous content in soil
- K - ratio of Potassium content in soil
- temperature - temperature in degree Celsius
- humidity - relative humidity in %
- ph - ph value of the soil
- rainfall - rainfall in mm

Libraries Required

Project Workflow



Conclusion

- The Crop Recommendation Model was successfully built, evaluated.
- We selected the Random Forest Classifier for this case as it was the best fit.
- The model was deployed via Streamlit so as to enable testing with real world data.

Future Steps

- Use Binary Encoding and Multi Output Classifier and analyze its results.
- Integrate MongoDB to store the real-world data received and their predictions.
- Integrate FastAPI, Streamlit and MongoDB in order to have a complete Crop Recommendation Application UI.