

Software & Data Engineering Project Report

By Ravi Shankar Kumar & Debonil Ghosh
IIT Jodhpur

Problem Statement : How
to Skip the commits for
CI-CD which are not worth
running hours of pipeline
for it?

Problem
Domain :

Software
Engineering

The Solution

A Machine
Learning Approach
to Improve the
Detection of CI
Skip Commits

Work Done!

Related to Data Source &
Pre-processing

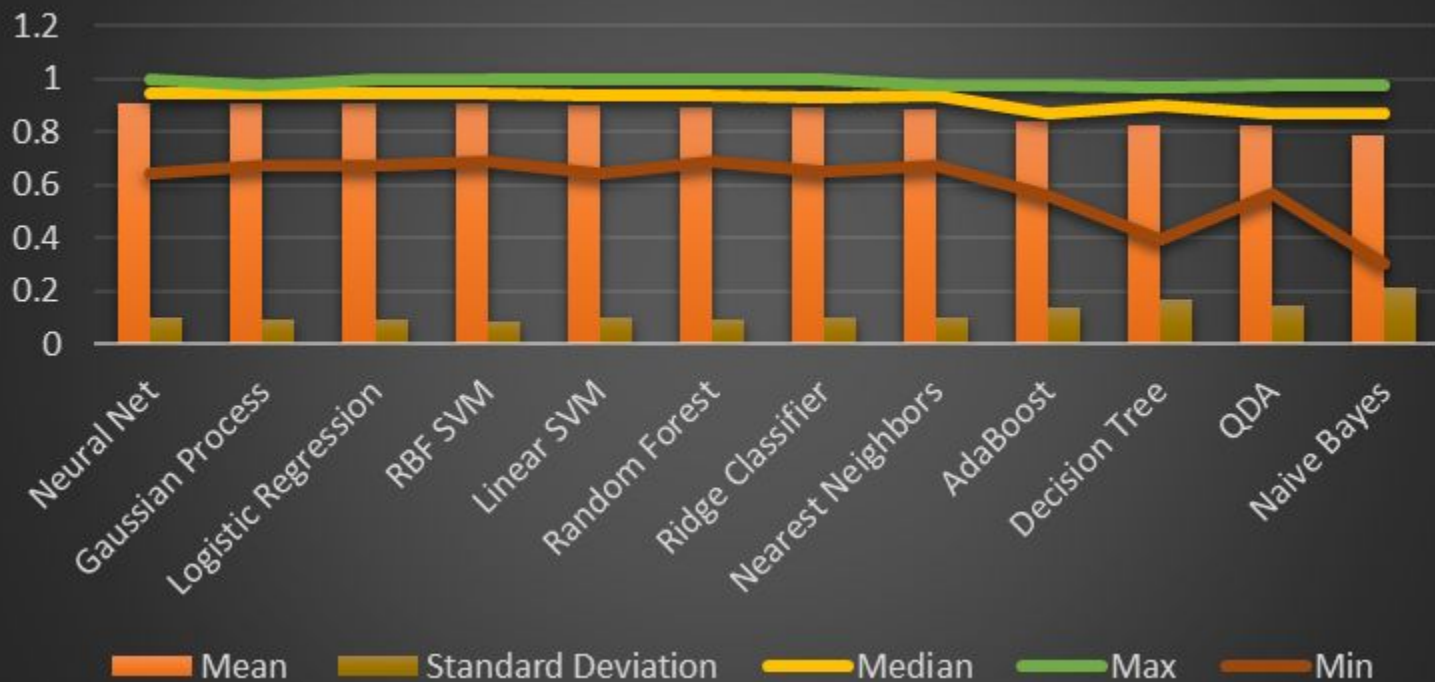
- Identifying the right Github project as Data source
 - Data Retrieval
 - Data Cleaning & Extraction
 - Preparing & normalizing Data
-

Work Done (Cont..)!

Related to Machine Learning
Model

- Feature Engineering
 - Building the ML model
 - Model training & testing
 - Validation of Model
 - Performance Reporting
-

Classifiers Accuracy over Projects



Conclusion: Neural Net has best accuracy among all classifiers, but Random Forest Classifier has explainability of the model with comparable performance with Neural Net

Project Member

Ravi Shankar Kumar

Profession - IT & Softwares

Current Company - EPAM System India Pvt Ltd.

Title : Quality Architect -I

Educational Background - B.Tech in Computer Science from IIIT

Kolkata & Pursuing M.Tech in AI & Machine learning from IIT Jodhpur

Total Experience - 15 years



Project Member

Debonil Ghosh

Profession - IT & Softwares

Current Company - Centre for Railway Information Systems (CRIS)

Title - Senior Software Engineer.

Educational Background - B.Tech in Computer Science from Govt College of Engineering and Textile Technology, Serampore & Pursuing M.Tech in AI & Machine learning from IIT Jodhpur

Total Experience - 8 years



Team Members Contribution

Team Member-1	Ravi Shankar Kumar	<ul style="list-style-type: none">• Coded Feature Extraction• Code Feature engineering• Coded ML model results calculation• Worked on Report & PPT
Team Member-2	Debonil Ghosh	<ul style="list-style-type: none">• Coded the Data Extraction• Coded Data cleaning• Coded ML models evaluation and Result Logging• Worked on Report & PPT



Thank you!

We thank you our respected professor Sumit Kalra for helping us learn the subject well and also challenging us to do the project which was great learning and we learned multiple things. With that said would like to thank Teaching Assistants for their hard work by helping professor to smoothly conduct this course. Thank you Again!

A graphic with the words "THANK YOU" in a colorful, hand-drawn style. The word "THANK" is in uppercase letters, with "T" in black, "H" in pink, "A" in orange, "N" in yellow, and "K" in blue. The word "YOU" is in lowercase letters, with "y" in yellow, "O" in a red circle with a white starburst, and "U" in blue. The background is a light pink square.