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(All Programs Accredited by NBA)

Department of Information Technology



PERSONALITY TRAIT PREDICTION

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Project Guide
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1. Introduction

- Data Science and AI are revolutionizing the planet through technical transformations. We can observe many machine learning applications in our day-to-day lives, but one of the greatest applications of machine learning is to classify individuals based on their personality traits. Every person on the planet is unique and carries a unique personality trait.
- The big five personality traits , often mentioned as OCEAN model, are Openness, Conscientiousness, Extroversion, Agreeableness, and Neuroticism. These five personality traits represent broad domains of human behavior and account for differences in both personality and decision making.

- **Problem Identified :**

Nowadays, personality assessment has become the most used test to hire many employees. As a result, we require technology which will predict the personality of the candidate, save time and reduce the workload of HR department thereby making it easier for them to shortlist the efficient candidates for the company.

- **Solution Proposed :**

The solution proposed is the Personality trait prediction system. It is based on identifying the personality of an individual using machine learning algorithms to predict the personality of the user. The main aim of our project is to build a more reliable and smarter prediction system.

2. Objectives

- To shortlist the right candidate according to the skills and experience.
- To eliminate the manual traditional recruitment process.
- To automate the recruitment process thereby saving cost and time considerably.
- To enhance human behaviour research and decision making process.
- To uplift marketing strategies which could target specific type of people.

3. Scope

- This Personality Prediction Model can be used in E-commerce sites, in Competitive exams, Psychometric tests, Matrimonial sites, Government sectors like Army, Navy, Air force. Thus, the personality is automatically classified by the system after user attempts the survey by the data set provided in the back end.
- Personality analysis and prediction is more in recent times so further in future more personality traits can be added. Any improvement can be done using the data set and algorithms to improve the accuracy and can be helpful for career guidance module.

4. Literature Survey

Sr.no	Title	Author(s)	Year	Outcomes	Methodology	Result
1	“Predicting personality traits with social media”	Youyou, Wu, and Kosinski	2015	Achieved high accuracies in predicting personalities from Facebook likes, with best model achieving correlation of 0.56 for extraversion and 0.50 for Openness.	Analyzed social media Data (Facebook like) using machine learning algorithms - random forest and linear regression to predict OCEAN model.	Found Facebook likes can be used to predict personality traits with high degree of accuracy.
2	“Personality Trait Prediction using Twitter Data and Deep Learning”	Kumar Rastogi, and Varshney	2018	Achieved high accuracies in predicting personalities from Twitter data, with best model achieving correlation of 0.68 for extraversion and 0.64 for Openness.	Applied deep learning techniques – long short term memory networks to predict OCEAN model based on Twitter data.	Discovered that deep learning techniques can be used to accurately predict personality traits from twitter data.
3	“Predicting Big Five Personality Traits from Linguistic Data”	Tausczik and Pennebaker	2010	Found that certain linguistic Features(like – use of positive emotion words) were consistently associated with certain personality traits, while other features were more variable.	Conducted meta-analysis of studies that used linguistic data to predict big Five personality traits (OCEAN).	Learned a new category linguistics that can be used to determine traits.

5. Proposed System

- Personality is useful for recognizing how people lead, influence, communicate, collaborate, negotiate business and manage stress. Personality is one of the important main features that determines how people interact with outside world. This project is helpful where we have data related to personal behavior.
- This personal behavior data can be useful for identifying person based on his/her personality traits. The personality characteristics will be already stored in database. Later when user enters his personality characteristics his personality is examined in database and system will detect the personality of user.

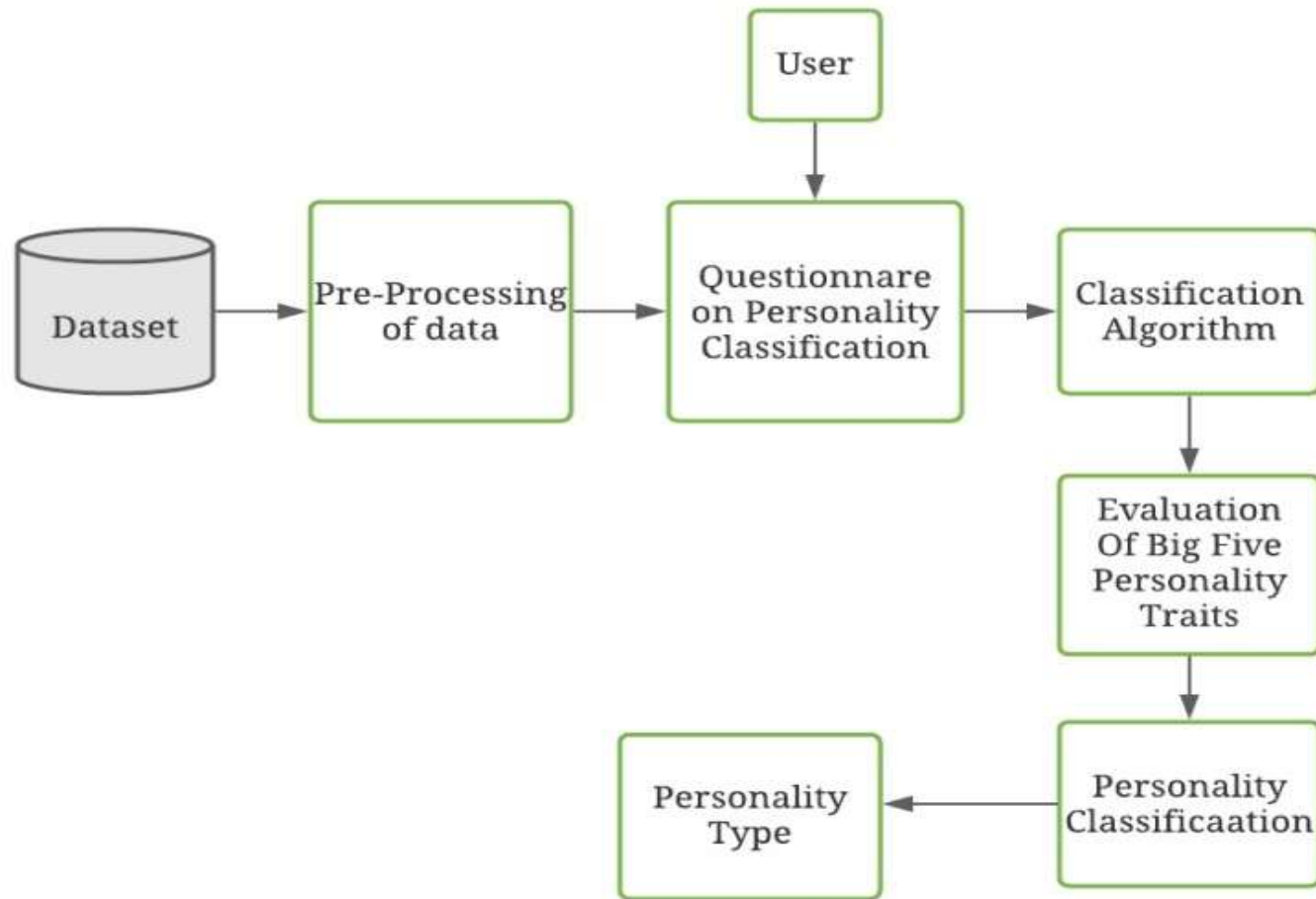
6. Features and Functionality

- Provides detailed analysis of the user's personality.
- Helps users to analyse their soft skills and target the weak areas.
- They can upload their respective CV or Resume.
- The GUI is simple, attractive and user-friendly.
- User can fill the questionnaire and submit responses.
- Personality characters can be stored in database.

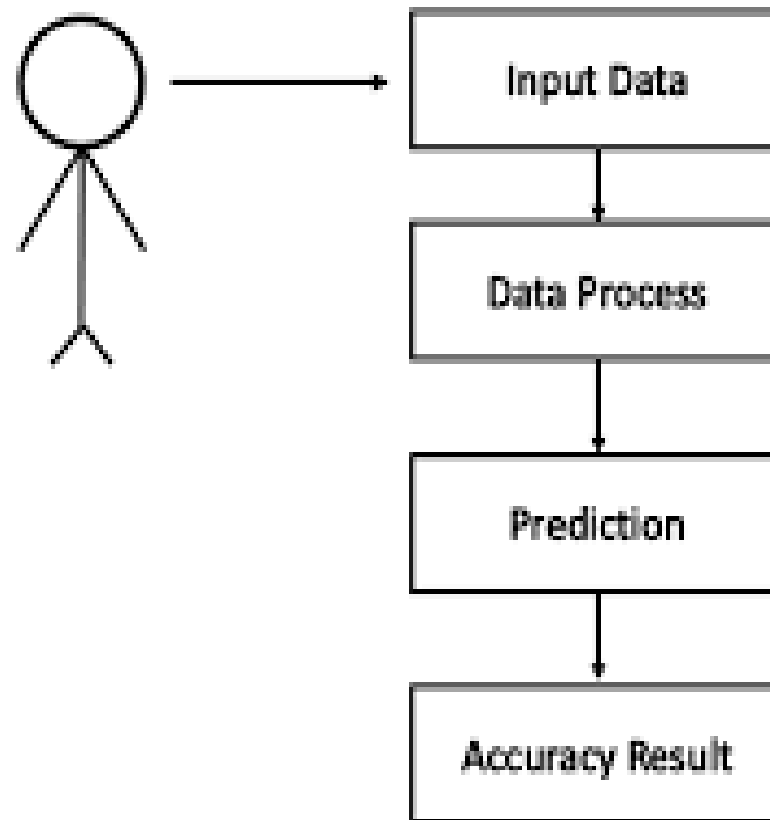
7. Outcome of Project

- User can enter the details.
- User can answer the questions.
- System will scan the responses and fetch the important details.
- Dataset will analyse the answers fed and predict the personality.
- Result page will show everything in a summarized manner.
- This project will help the user to write the test and check its own personality.
- From the classification, the person can view the type of personality and can improve based upon the results.

8. Flow Chart



9. Use Case Diagram



10. Technology Stack

1. Frontend :- Python

2. IDE :- VS Code

3. Algorithms :- Logistic Regression

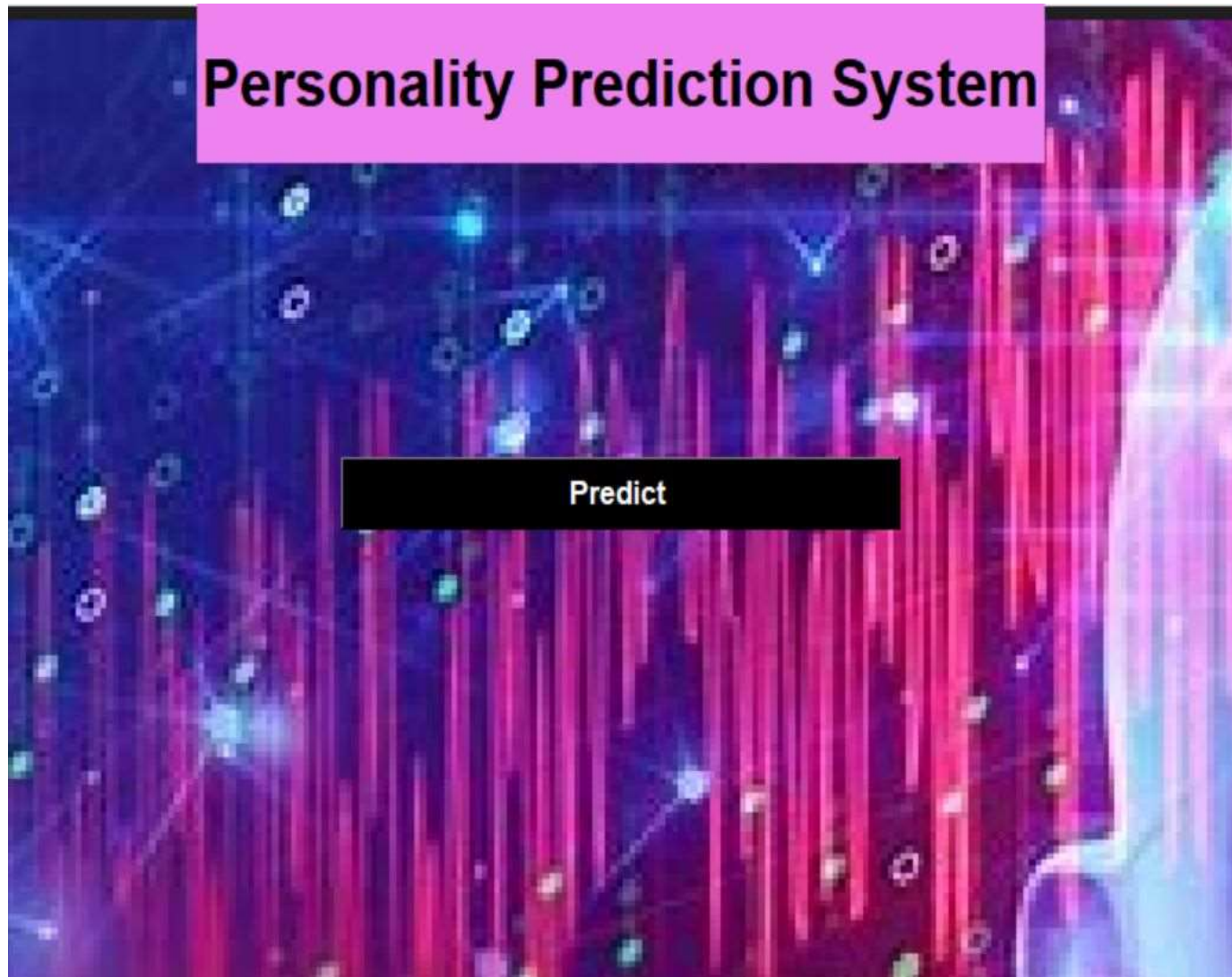
It contains two method which train the model and predict the result by giving the various values. train method: It read the dataset for training the model from a csv file and build a model using Logistic Regression

11. Suggestion in Review 1

- Change the Use Case diagram
- Use bullet points
- Literature survey should be in tabular format
- Elaborate conclusion and future scope
- Justify and align content properly

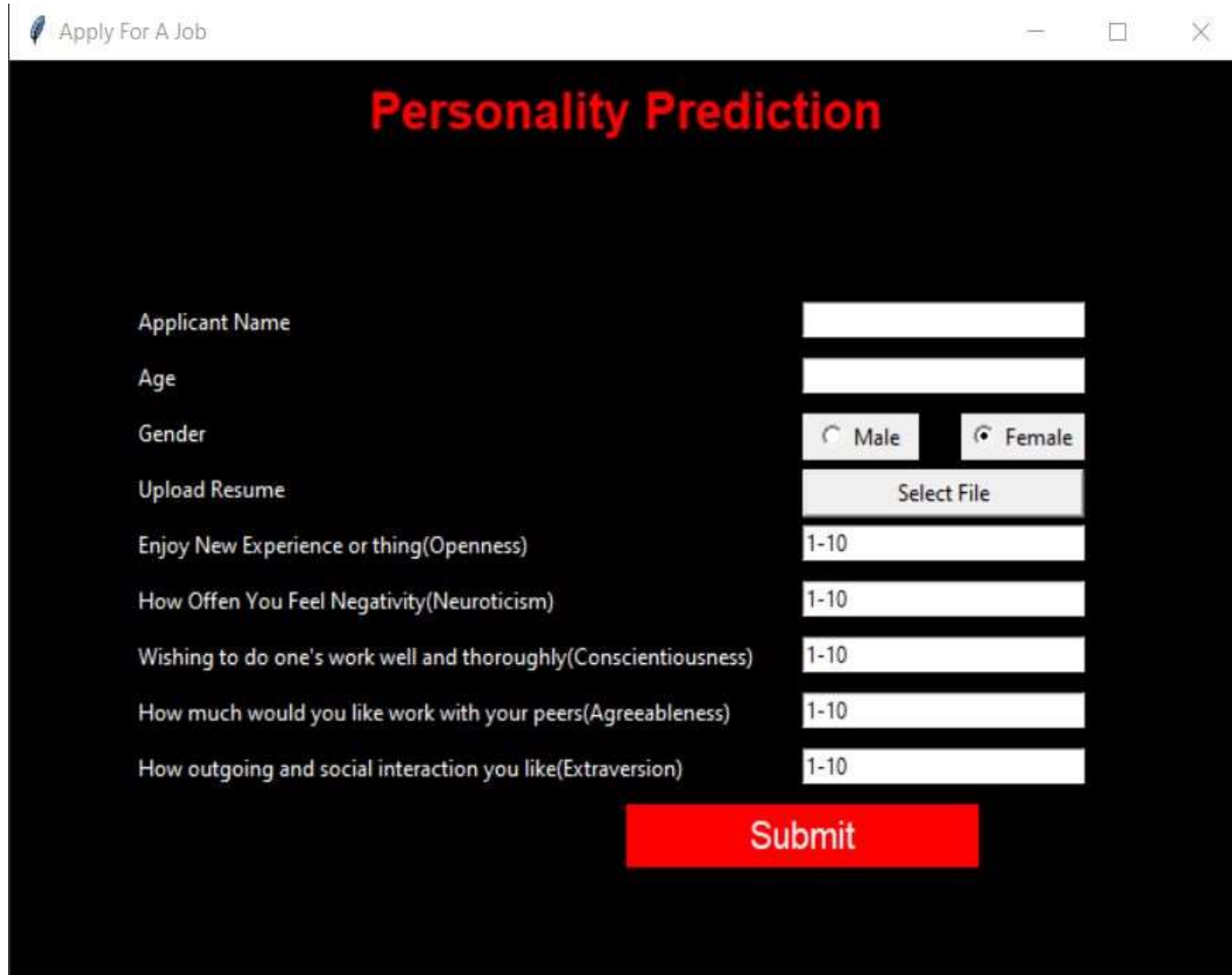
12. Result and Discussion

Home Page:



12. Result and Discussion

Main Page:



The screenshot shows a web browser window with the title 'Apply For A Job'. The main content area has a black background with the title 'Personality Prediction' in red. The form contains the following fields and options:

- Applicant Name:
- Age:
- Gender: ☐ Male ☒ Female
- Upload Resume:
- Enjoy New Experience or thing(Openness):
- How Often You Feel Negativity(Neuroticism):
- Wishing to do one's work well and thoroughly(Conscientiousness):
- How much would you like work with your peers(Agreeableness):
- How outgoing and social interaction you like(Extraversion):

A red 'Submit' button is located at the bottom center of the form.

12. Result and Discussion

Result:

Predicted Personality

Result - Personality Prediction

Name : Hitesh Agarwal

Age : 20

Email : Lavaneesh.Reddy@Aiesec.Net

Mobile_Number : 8978644499

Skills : Excel, P, R, Finance, C, Marketing, International, Fitness,

Degree : B tech Computer Sciences,

No_Of_Pages : 1

Total_Experience : 0

['Predicted Personality: Responsible']

Exit

Openness:

People who like to learn new things and enjoy new experiences usually score high in openness. Openness includes traits like being insightful and imaginative and having a wide variety of interests.

Conscientiousness:

People that have a high degree of conscientiousness are reliable and prompt. Traits include being organised, methodic, and thorough.

Extraversion:

Extraversion traits include being: energetic, talkative, and assertive (sometime seen as outspoken by Introverts). Extraverts get their energy and drive from others, while introverts are self-driven get their drive from within themselves.

Agreeableness:

As it perhaps sounds, these individuals are warm, friendly, compassionate and cooperative and traits include being kind, affectionate, and sympathetic. In contrast, people with lower levels of agreeableness may be more distant.

Neuroticism:

Neuroticism or Emotional Stability relates to degree of negative emotions. People that score high on neuroticism often experience emotional instability and negative emotions. Characteristics typically include being moody and tense.

13. Conclusion & Future Scope

- **Conclusion:-**

In this project, we discussed about how the personality is identified using different classification algorithms. Here we study relationship between user and his/her personality. In this we used logistic regression because it gives best accuracy while comparing to other algorithms that are used previously like naive Bayes , SVM , Logistic regression is fast and give accurate results compared to other algorithms. This project helps to write the personality test and check the personality of the person. From the personality classification, the person can view the type of personality and can improve the personality based upon the results.

- **Future Scope:-**

We can modify the existing system and attach it to a questionnaire so that the personality score and the aptitude score will be calculated at the same time thereby reducing the workload. This Personality prediction system can be extended further to other domains like Telecom, Health-care, E-commerce and public sector jobs. Personality analysis and prediction is more in recent times so further in future more personality traits can be added. Further any improvement can be done using the data set and algorithms to improve the accuracy and can be helpful for career guidance module, if user has good speaking and convincing skills.

14. References

- John, O. P., Naumann, L. P., & Soto, C. J. (2008), In Handbook of personality: Theory and research (Vol. 3, pp. 114-158). Guilford.
- Lippa, R. A. (2010). Gender differences in personality and interests: When, where, and why? Social and Personality Psychology Compass.
- <https://youtu.be/n1TCvsKUEZ8>
- https://youtu.be/Cavebr_NNq8
- <https://nevonprojects.com/personality-prediction-system-through-cv-analysis/>

Thank You!