Personality Prediction using Machine Learning

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1 Introduction

Observing and predicting human personality has been a research interest in behavioral learning. Now, the availability of multi-dimensional massive data about human behavior has opened the door to use machine learning to predict the personality of humans. With the increased use of smartphones and social media, collecting data about human behavior has been relatively easy. Machine learning algorithms are beneficial in recognizing patterns in data that have multiple features. The project aims to apply machine learning techniques to build a predictive personality model.

2 Motivation

Japan used AI to solve its high divorce rate. [3] AI to reduce the divorce rate has significantly influenced selecting this project. It was fascinating to see how machine learning could be used to tackle social problems. Japan has built an AI-based dating service that emphasizes individual values and personality. In contrast to traditional recommendations where recommendations were based on income age. The personality model is known as the OCEAN model, and it is based on psychological theories to assess personality. The ocean model comprises five ideas: open to experience, conscientiousness, extraversion, agreeableness, and neuroticism.

Much research has been involved with machine learning on different types of data to determine individuals' OCEAN personality traits. This research field is trendy because there have been practical implementations in modern technology. Personality prediction is used in the targeted marketing campaign. Significant research has been going on incorporating personality in building a recommendation system. However, supervised algorithms are used in applications such as Naive Bayes and Bagged Support Vector Machine. Nowadays, researchers are experimenting with unsupervised algorithms to predict personality. A notable amount of research work is dedicated to improving the accuracy and running time of the model.

3 Proposal

The project will utilize (MBTI) Myers-Briggs Personality Type dataset to apply different machine learning algorithms[1]. The data-set consists of personality types and social posts of around 8500 people. It is a labeled data-set that consists of 16 types of distinct human personalities and has three social media posts of each user. Firstly, the project will explore the commonly used supervised learning algorithm *Logistic Regression*. It aims to identify the factors that affect the learning of a model. Additionally, it will experiment with how the parameters affect the learning of the model.

The next step of the project is to implement a widely used algorithm for personality analysis that is *Support Vector Machine*. Again, the project's focus would be determining the parameters that impact learning and how they have an impact on learning. Another project's focus will be to observe the influence of data type while implementing algorithms. The project will also implement different validation techniques to measure the model's performance. Finally, the project will implement the clustering algorithms widely used in personality predictions and observation. Lastly, it will try to improve the accuracy of the implemented algorithms.

4 Conclusion

Machine learning-based models have shown their excellent capability of extracting high-level features from data. Machine Learning shines learning from data. It is noted that the project will focus on implementing machine learning algorithms to understand how algorithms are impacted on different parameters.

References

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[3] https://www.enjoyalgorithms.com/blog/personality-prediction-using-ml ,