FINAL YEAR PROJECT - PRESENTATION

UNDER THE GUIDANCE OF - Dr. V. K. SAMBHE
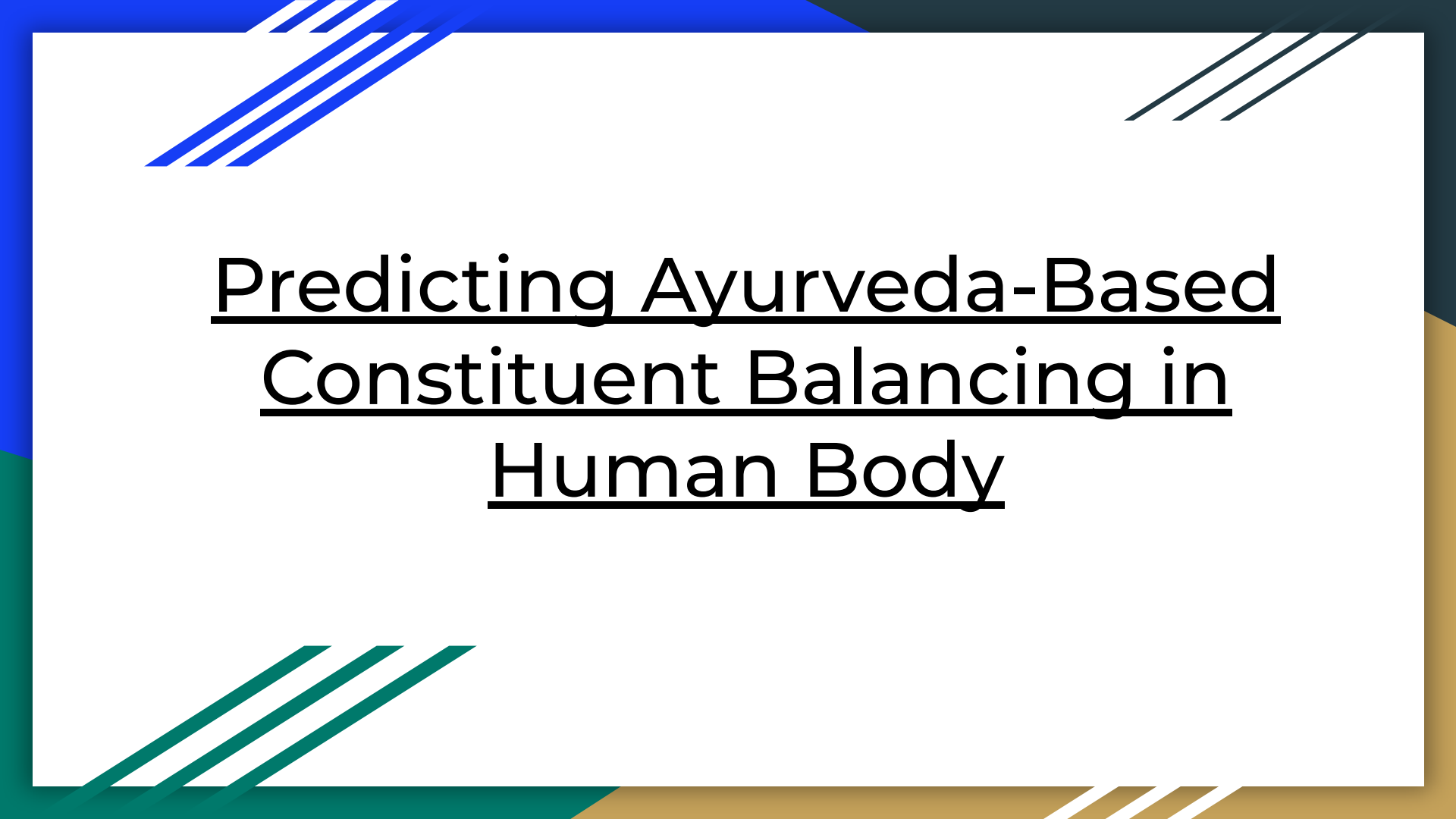
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Predicting Ayurveda-Based Constituent Balancing in Human Body

AIM :

➜ To develop a functional real time ML based system for predicting dosha in human body.

INTRODUCTION & PROBLEM STATEMENT

➜ In Ayurveda, it is mentioned that, every human body is dominated by a unique combination of influencing energies - VATA , PITTA and KAPHA. (Tri-dosha).

- ➜ Using that information about human body, it can be defined- what is in harmony with human nature and what will cause to move out of balance and experience illness.
- ➜ Also, the unique combination of VATA, PITTA and KAPHA will define human mind and body reactions to the environment variations.
- ➜ So, we are predicting doshas for humans so that it will help them to take proper treatment for environment variations.
- ➜ The inputs for predicting doshas are e.g body weight, hair colour, texture of skin etc.

METHODOLOGY

Prakruti Analysis
Methodology Diagram
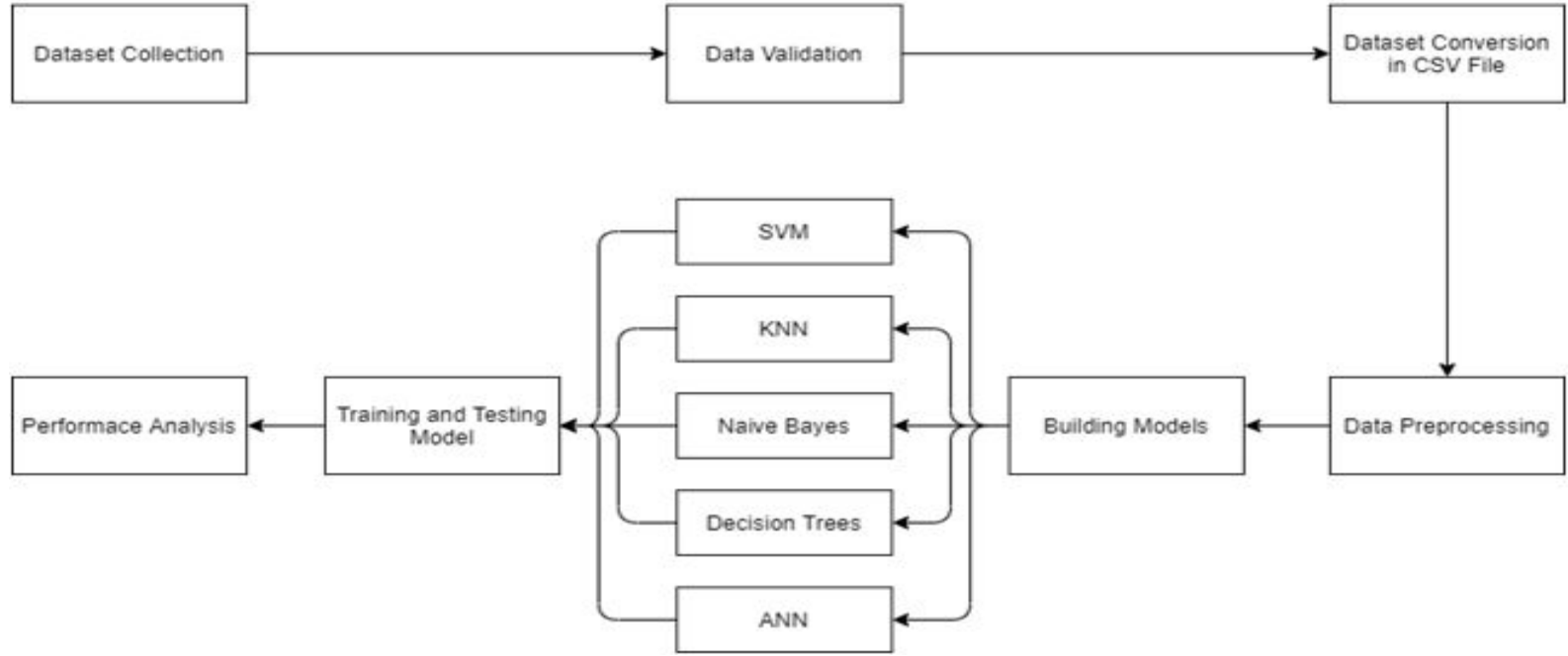
1] <u>DATASET COLLECTION</u>

➔ Dataset was not available on the internet. So, we created our own dataset with the help of survey.

➔ In this survey, we created google form with 20 different questions based on different body constituents' like hair color, body weight, Skin color, etc which were necessary inputs to predict the dosha.

➔ Link to google form -

https://docs.google.com/forms/d/e/1FAIpQLSdZGKoC0iqe4oq4odN9STGvw820kQ8pX7KhOXgdoVtUkSPbxA/viewform

2] <u>DATA VALIDATION</u>

➔ We received around 1200 records from our survey which were not analyzed yet.

➔ So, we took help of Ayurveda specialist to analyze the records.

3] DATA PREPROCESSING

Below are the steps performed for Data Preprocessing.

1] Identifying and Handling missing values -

➔   We removed the records with missing values.

2] Encoding the categorical data -

➔   As our dataset was in text format we had to encode it in numbers.

3] Splitting the dataset -

➔   We splitted the dataset by 80:20 ratio for training and testing dataset using sklearn library.

4] <u>BUILDING MODELS AND RESULTS</u>

Below are the models we built, trained and tested on the dataset.

➔ 1] Naïve Bayes
➔ 2] SVM
➔ 3] Decision Tree
➔ 4] ANN
➔ 5] KNN

➔ There are many factors that makes an impact such as size and structure of the dataset.

➔ That's why we had to implement above all techniques and analyze the results.

➔ We also generated classification report and calculated precision, recall and F-score values.

➔ From the above models, SVM and Decision Tree models performed best with the accuracy of 97%.

SOFTWARE REQUIREMENTS

➔ **python 3.9.2**
➔ **numpy 1.20.3**
➔ **matplotlib 3.4.2**
➔ **pandas 1.2.4**
➔ **scikit-learn 0.24.2**

DEVELOPING WEB-APP

1] FRONT END -

➔ For the front-end we used HTML, CSS, Bootstrap for designing and Javascript to perform actions.

2] BACK END -

➔ To integrate ML models with web app we used Flask.

We also hosted our site on cloud using Heroku.

Link to site - https://prakruti-prediction.herokuapp.com/

DIFFICULTIES AND CHALLENGES

➔ We couldn't find the dataset on the internet, so we had to generate our own dataset.

➔ Second issue was approaching to the ayurveda specialist. So that we can analyze and get the outputs for the records .

FURTHER IMPROVEMENTS

➔ We are planning to the achieve higher accuracy by adding more number of records.

➔ Also, we are approaching other some ayurveda specialists so that our records will be more accurately analyzed.

➔ We are also planning to apply different techniques such as bagging, boosting to improve the results.

CONCLUSION

1] We developed a functional real time ML based system for predicting dosha in human body using different machine learning methods such as Naive Bayes, SVM, Decision Tree, ANN and KNN.

2] Among all models SVM and Decision Tree models performed best with accuracy of 97%.

3] Web-app is built using web technologies with integration of ML models.

4] People can use this web app to find constituents of their body and take proper treatment for the diseases.

THANK YOU!