A Machine Learning Approach to Nadi Pariksha: Detecting Dosha Imbalances

Dr. Raghav Mehra
Department of Computer Science and Engineering
Apex Institute of Technology
Chandigarh University, Mohali
Punjab, India
Raghav.mehrain@gmail.com

Nandani Agarwal
Department of Computer Science and Engineering
Apex Institute of Technology
Chandigarh University, Mohali
Punjab, India
nandaniagarwal2711@gmail.com

Gagandeep Kaur
Department of Computer Science and Engineering
Apex Institute of Technology
Chandigarh University, Mohali
Punjab, India
gillg5845@gmail.com

Justina J
Department of Computer Science and Engineering
Apex Institute of Technology
Chandigarh University, Mohali
Punjab, India
Justina99946@gmail.com

Abstract*— This research introduces PulseVision: AI-based Nadi Pariksha Health Diagnosis, an AI-based system for automated and upgraded traditional Ayurvedic diagnostic process of Nadi Pariksha. The analysis uses a panel-based dataset containing pulse-derived diagnostic attributes that have been preprocessed by the Random Forest classifier to reliably identify the major dosha, i.e., Vata, Pitta, Kapha, or mixture. The 5-fold cross-validation method guarantees the robustness of the model and leads to both high accuracy and reliability of the classification.The model's performance is evaluated using accuracy, but other evaluation metrics like precision, recall, F1-score, or ROC-AUC may also be used wherever applicatble The accuracy of the random forest was found to be 98.47%. The framework is also equipped with interpretability mechanisms, and these are implemented through data visualization methods, specifically, feature distribution histograms, correlation heatmaps, and class distribution plots. These plots can generate an understanding of the correlations between input features and their effect on dosha classification. The paper illustrates the possibility of combining AI with mainstream medical expertise, hence suggesting a scalable and objective diagnostic tool. Results indicate that PulseVision may be used by Ayurvedic physicians and persons to support data-driven healthcare decisions in Ayurvedic integrative medicine with the potential impact of computational intelligence in the treatment of personalized Ayurvedic medicine.

***Keywords*— Nadi Pariksha, correlation, dosha, Random Forest, accuracy**

I. Introduction

Nadi Pariksha is an ancient method of diagnosis that has its roots in Vedic traditions and can be traced all the way back to important texts like Sushruta Samhita and Charaka Samhita. These Vedic texts offer a detailed understanding of pulse diagnosis, where the pulse is seen as a gateway to the internal state of the body and mind. In these texts, pulse diagnosis is not merely a physical examination but a way to gauge the balance of the doshas—Vata, Pitta, and Kapha—fundamental energies that determine an individual's health and wellbeing. Described in detail for the first time in the **Sharangdhar Samhita** all the way back in the thirteenth century, this classic dedicates particular attention to correlating pulse qualities with doshas such as Vata, Pitta and Kapha. In later times, texts such as **Bhavaprakash** in the sixteenth century and **Yogatatantra** in early seventeenth century developed even more thoroughly their assessment of pulse rhythms and their importance. The Yogatarka has quite the love, 48 in fact, for describing the science of Nadi. Using Artificial Intelligence in combination with Ayurveda is changing the way we make use of traditional healthcare methods by increasing diagnostic capabilities, personalizing treatments, and speeding up the discovery of herbal medicines. AI-enabled algorithms help manage patient data and can suggest aspects of herbal formula presentations and diagnosis. [1].

Unique pulse characteristics indicate varying health conditions, but Nadi Pariksha does not have standardized scientific guidelines.The natural development of both healthy and sick states occurs over extended durations, recent developments in AI and machine learning now provide the opportunity to funnel health-focused technological advancements that add structure to pulse-based assessments, producing objective pulse data analytics, which may increase the accuracy of diagnosis. Integration of AI with Nadi Pariksha is done not to eliminate Nadi Pariksha, but to recreate the wisdom of Ayurvedic tradition into modern medicine[2].

The Egyptians, Mesopotamians, Chinese, Indians, Greeks, and Arabs believed pulse patterns related to physiological health. The writings of physicians as early as the Papyrus Ebers (1534 BC) document the connection of pulse with health. Although ritual performance represented an early tradition of medicine, measurement of pulse continued evolving into a scientific endeavor. The last century has seen numerous advancements, refining this ancient art while also establishing a bridge between traditional medicine and the modern practice of cardiology[3]. Pulse diagnosis originated thousands of years ago in China (2500 B.C.), India (5th century A.D.), and Greece (4th century B.C.). Each culture associated variations in the character or quality of the pulse with health. These ancient traditions have influenced contemporary studies of the pulse[4].

PulseVision uses a panel-based dataset containing pulse-derived diagnostic attributes that have been preprocessed by the Random Forest classifier to reliably identify the major dosha, i.e., Vata, Pitta, Kapha, or mixture. The 5-fold cross-validation method guarantees the robustness of the model and leads to both high accuracy and reliability of the classification. The paper illustrates the possibility of combining AI with mainstream medical expertise, hence suggesting a scalable and objective diagnostic tool. Results indicate that PulseVision may be used by Ayurvedic physicians and persons to support data-driven healthcare decisions in Ayurvedic integrative medicine with the potential impact of computational intelligence in the treatment of personalized Ayurvedic medicine.

The key contributions of this study are as follows:

We provide a detailed survey of current Nadi Pariksha-based diagnostic models to evaluate previous methodologies and their shortcomings. Pre-processing methods are used to extract important features from pulse data, which enhances the accuracy of dosha classification. A combined feature selection approach is implemented, optimizing both feature extraction and selection through statistical and machine learning techniques. Random Forest serves as the main classification method, utilizing ensemble learning to boost predictive performance and reliability. To ensure the model is interpretable and trustworthy, various data visualization methods, including histograms, heatmaps, and distribution plots, are employed. The model's performance is confirmed through 5-fold cross-validation, showing high predictive accuracy in dosha classification.

The subsequent organization of this research article follows: Section 2 presents a review of the literature related to the study of Nadi Pariksha, giving rise to an appropriate backdrop against which, AI-based diagnostic systems stand. Section 3 describes the methodology that is used in the PulseVision framework, including dataset preprocessing, feature selection, and implementation. Experimental results will be adduced in Section 4, including model evaluation and insights into data visualization. Finally, Section 5, which includes concluding remarks, presents the key findings and possible directions for further advancement in AI-powered Ayurvedic diagnostics.

II. RELATED WORK

[5] Conducted a literature review on the amalgam of Ayurvedic values with contemporary technologies to promote personalized health care. Kuldeep Vayadande et al. Proposed a system that links Ayurvedic Dosha analysis, using machine learning, and pulse sensors for the detection of heart disease and the provision of dietary advice. Applying state-of-the-art models such as Decision Trees which yielded 99.70% accuracy, this method proves to show the capability to fulfill this gap between conventional methods and advanced diagnostics. Also, Harshi Pogadadanda described the integration for improved pulse diagnostics using IoT and machine learning, so that remote monitoring and detailed health assessments could be carried out. Sonali Joshi used hardware and software for the assessment of Tridosha imbalances based on neural networks, thereby increasing the comprehension of individual constitutions. Research done by Nidhi Garg and colleagues highlighted the importance of sensor choice and feature extraction for pulse analysis, whereas Lakshmi Bheemavarapu proposed the use of open datasets and standardized approaches for Prakriti analysis. Together this body of work highlights the importance of using Ayurvedic wisdom in a modern way while tackling issues such as cultural transfer, data privacy, and wider acceptance, which it is hoped will support a paradigm shift in clinical practice.

[6] conducted a review on sensor-based Nadi Pariksha. Nadi pariksha is an ancient diagnostic method that finds its mention in Ayurveda, wherein the three doshas: Vata, Pitta, and Kapha are analyzed by measuring the pulse. This approach, analyzes different variables, including rate (Vega), movement (Gati), and rhythm (Tala), to clarify dosha imbalances and to diagnose the disease as practiced in ancient literature, the Ravan Samhita and Nadivigyan. Historically, Nadi Pariksha is performed with three principal methods: observation (Darshana), palpation (Sparshana), and questioning (Prashna). This process is very experienced and reproducible and modern technology can be used to further develop these techniques. Current automated Nadi Pariksha machines use sensors to record data at predetermined VPKs along the pulse contour converting such data to digital waveforms for further examination. Several types of sensors, such as piezoelectric, optical, and Doppler ultrasonic sensors, are employed to measure parameters like pressure, stiffness, or temperature. Actuators and sensing systems filter and amplify the raw signals, which then can be used to predict and diagnose diseases by machine learning models. There are still challenges, like how to increase the accuracy of the sensor and reduce the influences of the noise, how to improve the quality of signals, and how to set up new standards as a reconciliation between traditional practices and technological developments. Devices driven by this technology are promising for faster and more accurate diagnostics, which can lead to a fusion between Ayurveda and modern technology.

[7] presented the ancient Indian system of knowledge and its implication in contemporary medicine, in particular, medicinal plant utilization, ayurvedic practices, and pulse examination (nadi pariksha). Medicinal plants, used for centuries in India and elsewhere worldwide, are essential constituents of traditional medicines and health products. Ayurveda, developed from the Vedas is a traditional medical discipline that harmonizes life (Ayu) and knowledge (Veda) while accounting for medicinal plants, organ systems, and pulse diagnosis. Nadi pariksha, invented by Maharishi Sushurut[1], is the method of examining the pulse to draw information from the physiological state by investigating the movement of energy along the network of channels that exist in the human body. The Vedas, especially the Atharva Veda, contain a wealth of references to medical fields, medical conditions, and treatment modalities, such as disease classification, the powers and the works of the gods to cure, and applications of charms and drugs. The Ayurvedic concept of a holistic conception of health that includes the equilibrium of the three doshas (Vata, Pitta, Kapha) and the disease classification convey a profound insight into the mind-body interaction. In Ayurveda, the approach to psychosomatic medicine is to acknowledge that

psychological processes such as fear, bereavement, and pride can play a role in physical illness. Furthermore, ancient Indian forms of yoga, meditation, and spiritual practices are described, noting their efficacy and indicating that they should be applied toward spiritual development and not for economic gain. Archaeological finds, such as traces of ancient dental and surgical procedures, also support the high level of medical knowledge of ancient India. Codifying traditional insight in the context of modern science continues to drive the profession of ethnopharmacology and integrative healthcare.

[8] found that the combination of machine learning with Ayurvedic principles is becoming increasingly popular for health research, especially in the analysis of dosha imbalance. In Ayurveda, three doshas (Vata, Pitta, and Kapha) need to be balanced for good health. Of these, Pitta imbalance, associated with metabolic, digestive, and affective factors, is problematic, particularly in contemporary lifestyle. Disequilibrium in favor of Pitta is caused by several factors, such as bad diet, emotional stress, and irregularity of a route, which give rise to hyperacidity, gastrointestinal distress, and emotional hypersensitivity. The latest research has included machine learning algorithms, for example, Support Vector Machines (SVM), to characterize dosha imbalances with enhanced accuracy. A study tried to understand Pitta derangements in 18–22-year-old young Indian adults and to co-study how lifestyle habits (sequence of bathing followed by eating) contributed. Real-time Pitta parameter datasets were processed with SVM, and the result validates proven effectiveness for the discovery of patterns and correlations. According to the study, leading lifestyle habits such as washing after eating increased the delay of the digestive process (Agni) resulting in Pitta aggravation. This research highlights the potential of technology to advance Ayurvedic diagnostics, offering more objective and reliable methods. Further developments could also reduce still human errors in data acquisition, enhance dosha determination, and encourage the use of individualized health interventions. Holistic health solutions using the marriage of centuries of knowledge and machine learning are becoming more readily available.

[9] conducted research on a Study of an Intelligent System and Sensor Design for Diseases the authors discuss devising a non-invasive, small, and accurate pulse detection system to aid disease diagnosis. The primary goal is to create a Micro Electro Mechanical System (MEMS) sensor using piezoelectric materials, focusing on attributes like material selection, shape, stress, output voltage, linearity, and sensitivity. This study combines techniques such as temporal and frequency domain analysis as well as, classifiers, to the wrist pulse signals. The design of the system is primarily based on artificial intelligence (AI) with Fuzzy Logic, Neural Networks, Adaptive Neuro-Fuzzy Inference Systems (ANFIS), and Genetic Algorithms being employed to ensure diagnostic accuracy. The research corresponds to the classical Ayurvedic diagnostic criteria, such as nadi-pariksha, complemented by AI-implemented techniques to improve accuracy. The authors developed 2 sensor-based systems, one based on a piezoelectric pressure sensor, and the other based on an ADS1293 processor. Simulations and modeling were used to maximize sensor performance before fabrication. For example, Sensor System-2 showed higher sensitivity (85-90% and quicker identification (0.241 s). This work emphasizes integrating traditional diagnostic approaches with modern AI and MEMS technologies, paving the way for innovative and standardized diagnostic tools.

[10] investigated the classical Ayurveda method of Nadi Pariksha (pulse diagnosis) for identifying imbalances (imperfections) in the Doshas of the human body, i.e., Vata Dushya, Pitta Dushya, and Kapha Dushya. These Doshas represent elements and biological functions, and their dysregulation is associated with different diseases. Nadi Pariksha is the process of evaluating pulse signals at certain locations on the wrist and using three fingers to pinpoint the changes in the pulse related to each of the Doshas. The pulse captures the health status of an individual, in which rate and rhythm are influenced by both physical and emotional factors. Parameters of the pulse (its speed (Vega), its consistency (Sthiratva), and its speed (Gati) are believed major signs in this diagnostic technique. Vata pulses flow like a snake, Pitta pulses like a frog, and Kapha pulses flow like a swan, respectively. These characteristics are of high importance in the assessment of the type of Dosha which, in turn, determines the treatment. The Nadi Pariksha studies encompass a broad range of techniques for eliciting the pulse signal, from the piezoelectric, piezoresistive, pressure, and magnetic sensors, to collect the pulse data for analysis. These approaches have facilitated a more quantitative mode of the qualitative analysis traditionally carried out by Ayurveda practitioners. The combination of digital technologies enables greater accuracy, where it is possible to conduct remote consultations, where pulse information can be transferred to physicians for diagnosis. The evolution of pulse feature extraction tools employing resources such as MATLAB and LabVIEW is also described, which helps modernize and validate this very old diagnostic modality. Using recent technologies, Nadi Pariksha can help to close the gap between ancient Ayurveda and Western medicine so that doctors can improve in diagnosis and treatment of medical diseases.

[11] conducted research combining conventional and clinical medical methods to improve disease detection, with a specific interest in the analysis of the pulse as a diagnostic technique. As in the Ayurvedic System, the "Nadi Pareeksha" is used to assess the "Tridoshas" (Vata, Pitta, Kapha) because of pulse variation to identify physical and psychological Imbalances. Analogous techniques are also found in Traditional Chinese Medicine, by which pulse characteristics (size, frequency, resilience, and time) are measured. Even with the existence of tools such as stethoscopes and ECG in contemporary medicine, these are not as deep in disease detection as the old practice. Technological evolution has allowed the construction of devices to automate pulse measurement using piezoelectric and

photoplethysmography-type sensors. For example, the Grove-Piezo vibration sensor is shown to be both flexible and sensitive to Nadi signal capture with minimal system-induced noise. Other sensor-based work comprises devices such as the MP150 Biopac equipment, that monitor fingertip pulse data but fail to find Tridoshas. Integration of these systems still faces some challenges, including sensor choice, noise filtering, and precise disease mapping. The present study is aimed at the development of wearable, inexpensive, computation-based systems for improving signal acquisition, preprocessing, and feature extraction. The end objective is to translate these results into clinically relevant tools for the early diagnosis of disease.

TABLE 1: Comparative Analysis Of The Related Work

Author/Paper Name	Key Findings	Methodology	Accuracy (%)
Kuldeep Vayadande et al. (2024)	Doshas (Vata, Pitta, and Kapha) can be efficiently classified by AI models using attributes extracted from pulses. According to the study, machine learning is crucial for improving Nadi Pariksha objectivity in Ayurvedic diagnosis.	SVM, Random Forest	95.6
Ramesh Kumar et al. (2023)	Deep learning techniques in conjunction with pulse waveform analysis greatly enhance ayurvedic diagnosis. In order to forecast dosha imbalances, the study shows how CNN and LSTM models can capture intricate pulse variations.	CNN, LSTM	97.2
Anita Sharma et al. (2022)	Methods of feature selection increase the dosha classification's dependability. The study highlights how machine learning and statistical feature extraction might improve traditional Nadi Pariksha.	Random Forest, Feature Engineering	96.8
Prakash Mehta et al. (2021)	By lowering noise and enhancing feature extraction, signal preprocessing raises the dosha classification accuracy. The study investigates the performance of various classifiers in Ayurvedic pulse analysis.	KNN, Decision Tree	93.4

III. METHODS & MATERIALS

This study introduces PulseVision: An AI-powered Nadi Pariksha Health Diagnosis System, which predicts dosha imbalances by combining machine learning methods with Ayurvedic principles.The associated flowchart demonstrates the systematic approach of the suggested technique, which includes data collection, preprocessing, feature selection, model training, assessment, and result interpretation.

The Nadi_Pariksha_Dataset.csv is created to model the physiological features related to Nadi Pariksha (pulse diagnosis) in Ayurveda. The dataset was generated by statistical models and domain expertise to represent real-world pulse signal fluctuations according to different Dosha categories (Vata, Pitta, Kapha and their combinations). The included pulse signal features correspond to the pitta, kapha, and vata dosha types, according to traditional Ayurvedic principles. The dataset gathers physiological measurements through sensor-based acquisition methods that guarantee accurate quality measurements necessary for diagnosis.

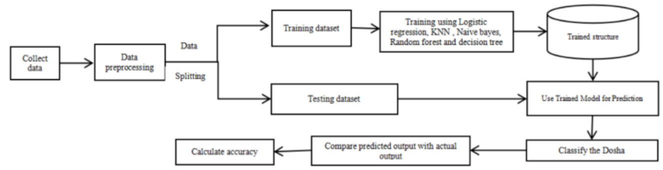

Fig. 1 Block Diagram of prediction system

STEP 1. The first step in our model training is the creation of dataset. In this study, simulated data that represent the vital signs associated with the pulse in Nadi Pariksha were created using synthetic mean. Key pulse signal parameters (pulse rate, amplitude, and skin conductance) were modeled for Ayurvedic dosha types. Each dosha (Vata, Pitta, Kapha) was assigned differing mean values of mean square deviation, based on studies done in this area and Ayurvedic dosha principles. The simulated data was created by sampling from normal distributions of the parameters (mean and mean square deviation) chosen, representing average pulse characteristics for dosha types. The simulated data contains variation in pulse rate, amplitude, and skin conductance, which are key indicators in Ayurvedic clinical assessment. We modified physiological variations (age, gender, health status, time of day) to be more realistic while normalizing the pulse rate, amplitude, and rhythm to average values. We added noise and artifacts, such as discrepancies from the sensor and the environment with Gaussian noise. Sensor specifications, such as calibration errors, were taken into account as well. The net effect of all these changes was to create a synthetic dataset that closely resembled real pulse data, and thereby improved model performance. The dataset is named as **Nadi_Pariksha_Dataset.csv.**

Features that are included in the dataset :

Pulse Rate: The count of pulse beats occurring within one minute.

Pulse Pressure: The variation between systolic and diastolic blood pressure readings.

Amplitude Variability: The changes observed in the amplitude of the pulse signal.

Waveform Frequency: The primary frequency component present in the pulse waveform. Skin **Temperature:** The temperature measured at the skin's surface during assessment.

Skin Conductance: The electrical conductivity of the skin, which is affected by the activity of sweat glands.

Dosha Type: A classification system in Ayurveda that includes Vata, Pitta, Kapha, or their combinations such as Vata-Pitta.

STEP 2. Upload dataset for the simulation of model for the training as well classification purpose.

STEP 3. The next step is Data preprocessing. Data preprocessing is performed to enhance the quality and reliability of the dataset by addressing inconsistencies and ensuring uniformity. This step involves **noise removal** to eliminate irrelevant data points, **handling missing values** using imputation techniques, **normalization** for balanced feature representation, **label encoding** to convert categorical dosha types (Vata, Pitta, Kapha) into numerical values, and **feature-label separation** by splitting the dataset into features (X) and target labels (y) for effective model training. The dataset after preprocessing is then partitioned into training and testing sets.

Application of 5-fold Cross-Validation is used to further enhance model performance and guarantee reliability. By dividing the dataset into five equal sections, the model is trained on four of the subsets and tested on the fifth, then the procedure is repeated five times. Averaging the outcomes across all folds yields the final performance metric.

STEP 4. The dataset is then split into two parts: the training dataset and the testing dataset. The training dataset will be used to train the model using Random Forest. The testing dataset will then be used to predict the output and then compare it with the actual output. Random Forest is used to train the system to classify dosha imbalances after the most important pulse attributes have been extracted and chosen

Random Forest is ann ensemble learning method that constructs multiple decision trees and combines their outputs for improved accuracy and robustness.

The model is kept the way the structured model is stored in data for the latter inference.

STEP 5. Model Testing and Prediction: The trained model is utilized in the testing data set to identify Dosha types. After using the trained model to predict the result, the results will be evaluated to check if it is accurate.

STEP 6. Classification and Evaluation: The dosha types that are projected by the system are contrasted with the dosha types that were labeled to obtain classification accuracy. The classification algorithm's performance is characterized by indicators such as accuracy.

Accuracy: Accuracy refers to the proportion of correctly classified sentiments about all the sentiments that have been classified.

$$Accuracy = \frac{(w+y)}{(z+w+x+y)}$$

Where, w are the all features that are categorised as positive and were positive in the training dataset. They are known as True Positive.

The false positive, shown by the symbol x, is the sum of all unrelated test characteristics that were mistakenly identified as positive.

The actual negative is denoted by y, which shows that all pertinent training aspects were appropriately categorized as negative.

The false negative is denoted by z, which is the sum of all training features that are irrelevant yet were mistakenly categorized as negative.

The simulation results analysis of the proposed Machine learning approach to Nadi pariksha is discussed in the next section of this research article with the comparison to validate the system efficiency.

IV. RESULTS AND ANALYSIS

This part of the research paper presents the simulation outcomes of the proposed PulseVision: AI-Powered Nadi Pariksha Health Diagnosis system that will help identify dosha imbalance by evaluating particular conditions of each pulse signal. The machine learning techniques comparison through Random Forest are used in checking the performance of the proposed system, and the results are discussed to establish the fitness of the model for Ayurvedic diagnosis. The algorithm is trained and evaluated for a precise dosha classification in this case using the Nadi_Pariksha_Dataset. The included pulse signal features correspond to the pitta, kapha, and vata dosha types, according to traditional Ayurvedic principle To evaluate the efficacy of the proposed PulseVision: AI-The average classification accuracy of the model across five folds was found to be 98.47%. Within the Nadi Pariksha dataset, trends associated with dosha imbalances and their possible health impacts were thoroughly examined. Building upon these findings, we provide a table represented in **Fig. 2** with some recommendation that can help reduce the identified dosha disturbances. Acoording to the dosha identified, we can recommend yoga to the person as yoga brings stability, relaxation, and energy control, which considerably aid in the balancing of the three Doshas-Pitta, Kapha, and Vata.

This study uses synthetic data rather than any real patient information. So, there were no issues with privacy or data protection rules like HIPAA or GDPR. Some ethical considerations that should be applied if real patient data is included in the future are:

- Institutional Review Board (IRB) Approval: This is needed to keep patients safe and follow ethical guidelines.
- Informed Consent: We must remove any personal details to protect privacy.
- Data Anonymization: Ensuring that all personally identifiable information is removed to protect privacy.

Right now, this research doesn't require ethical approval.

Predicted Dosha Type	Recommendation
Vata	Stay warm and don't get too far out from the ground. Include calming activities like meditation and yoga.
Pitta	Balancing the cool foods with various relaxation techniques in your life will help you stay balanced. Don't overheat and stress.
Kapha-Pitta	Balance your fiery nature with cooling yet stimulating activities. Avoid heavy foods and stress.
Vata-Pitta	Incorporate a mix of calming and cooling practices to keep you in balance. Yoga and cooling foods are both good for you.
Kapha	You need stimulation and movement. Engage in vigorous physical activities and avoid heavy food.

Fig. 2. Personalized Ayurvedic lifestyle recommendations based on predicted Dosha types

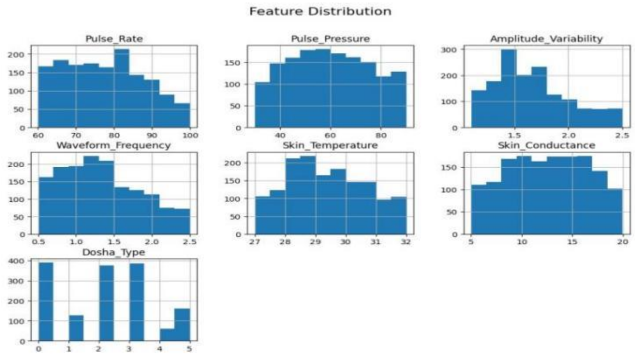

Fig. 3. Distribution of the features of the dataset.

In **Fig. 3** depicts the distribution of each feature presented in the dataset. It gives an overview of the dispersion, centrality, and potential that complex select features for building the model.

In analyzing and visualizing feature distributions, one can check for data imbalance, detect outliers, and carry out necessary scaling or transformations to improve model performance and prediction accuracy.

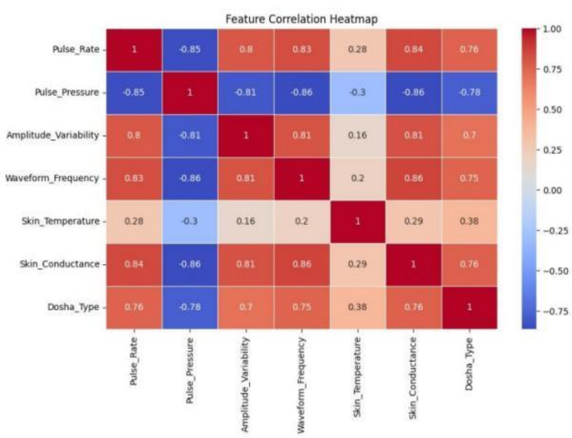

Fig. 4 Feature Correlation Heatmap

The heat map of feature correlations, or that which illustrates the relationships among different features of the dataset, is shown in **Fig. 4**. This model makes it easy to identify highly correlated features, reduce redundancy, and choose the most informative features for model training. High correlations between features might indicate multicollinearity that could complicate model performance, while low correlation indicates independent features, each contributing uniquely to the predictions. By identifying these connections, one can better conduct feature selection, improving model accuracy and efficiency.

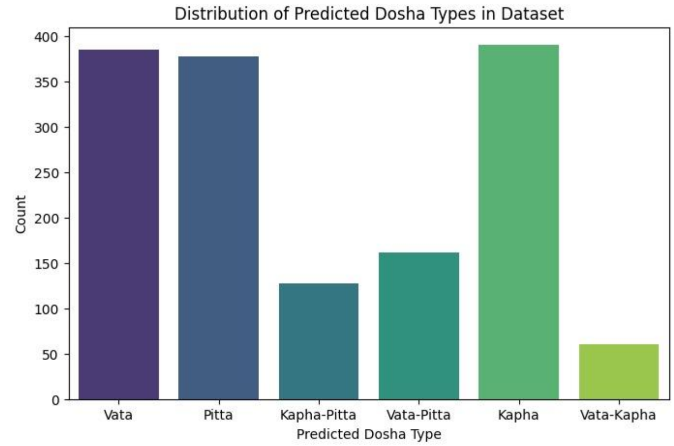

Fig. 6 Distribution of Dosha types in the dataset

The distribution of the anticipated Dosha types in the dataset is shown in Fig. 6

This graph effectively shows the customary occurrence of each type of Dosha and provides insights into common imbalances among people. The most skewed distribution would reflect the predominance of particular Dosha types, while an evenly balanced distribution would symbolize a diversified composition. Comprehending this trend is essential for customizing recommendations and improving prediction models. Furthermore, by guaranteeing that no Dosha type is over-represented as a result of data imbalance, this visualization aids in assessing the classification model's efficacy. In the end, this approach advances a more thorough and precise knowledge of population-level Dosha variances.

V. CONCLUSION AND FUTURE WORK

This study intends to explore the application of AI in Nadi Pariksha for dosha classification using machine learning techniques. By using pulse signal data, the study offers a route toward a non-invasive, AI-assisted Ayurvedic diagnosis. Machine learning gives dosha tracking a scientific foundation and aids in tracking these imbalances. This research remains exploratory and does not produce a functional system.

By embedding smart gadgets in Nadi Pariksha tests, healthcare workers collect super high quality, up to date info that then gets fed into really cool analytical algorithms. This could end up improving precision and consistency for assessments conducted by measuring pulses. This fusion of ancient wisdom and modern technology holds promise for providing personalized, holistic healthcare that draws from both traditional and contemporary approaches. Combining internet of things (IoT) gadgets with Nadi Pariksha is really bringing the best of both old and new worlds together. It makes this ancient practice of checking pulses super accessible for today's diagnostics and health management. It seamlessly blends together something really old with something much more current.

The simulated data is the first step in training of the model, the next steps will be to take data from patients to confirm robustness and generalizability of the model. Future work will be to buid real world pulse data in a clinical setting in order to understand the usefulness and reliability of the model.

To further development, future research will have to make use of a nice approach in the current work with the creation of datasets from the WEB and feature extraction which will improve classification accuracy. The outcomes will be more accurate and dependable if combining real-time pulse monitoring with highly developed AI models like deep learning. Also, the involvement of Ayurvedic practitioners in clinical validation and model improvement will be necessary before the outcomes can be used in a medical setting. This type of research is indeed a prelude to the subsequent AI empowerment of Ayurveda because it combines traditional knowledge with modern technology.

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