



A Textbook-Grounded AI Pipeline for Ayurvedic Clinical Decision Support and Dataset Construction

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Abstract

This paper introduces a comprehensive framework for developing an artificial intelligence–assisted clinical decision support system (CDSS) rooted in classical Ayurvedic knowledge. The study addresses a fundamental limitation in existing computational approaches to Ayurveda, where most systems depend on questionnaires or limited clinical datasets that are not explicitly derived from authoritative texts. To overcome this gap, the proposed approach focuses on systematically transforming unstructured knowledge from classical Ayurvedic literature into a structured and machine-learning-compatible format.

The framework is built upon a two-level data modelling strategy. The first level captures canonical disease–dosha–symptom–treatment relationships directly extracted from classical texts, ensuring fidelity to traditional knowledge. The second level generates context-aware patient instances by introducing controlled variability in demographic and lifestyle attributes while preserving validated clinical labels. A five-stage computational pipeline is designed to operationalize this process, including text extraction, semantic segmentation, domain-specific entity recognition, rule-based validation, and dataset expansion.

Machine learning models trained on the resulting dataset demonstrate strong predictive capability for dosha and disease classification, while treatment recommendations are generated through a knowledge-based system that maintains traceability to source texts. The integration of these components into a web-based platform highlights the practical applicability of the framework. Overall, this work establishes a transparent and reproducible pathway for combining traditional Ayurvedic principles with modern artificial intelligence techniques.

Keywords— Ayurveda; Clinical Decision Support System; Dosha Prediction; Machine Learning; Knowledge Extraction; Text Mining

1. INTRODUCTION

Ayurveda represents a comprehensive and holistic medical system that focuses on maintaining equilibrium within the human body through the dynamic regulation of three fundamental doshas: Vata, Pitta, and Kapha. These doshas are not merely physiological entities but functional principles governing movement, transformation, and structure within the body. Health, according to Ayurveda, is achieved when these doshas remain in a balanced state relative to an individual's inherent constitution, known as *prakriti*. In contrast to conventional biomedical models, which often adopt a standardized approach to diagnosis and treatment, Ayurvedic

practice is inherently personalized. It incorporates a wide range of factors including genetic predisposition, dietary habits, lifestyle patterns, seasonal variations, psychological state, and environmental conditions. Diagnostic processes involve multi-dimensional assessments such as pulse examination, observation of physical characteristics, and evaluation of behavioral tendencies, making the system both nuanced and context-sensitive.

Despite its conceptual richness and long-standing historical relevance, the integration of Ayurveda into modern digital healthcare ecosystems remains limited. One of the primary reasons for this gap is



the unstructured and narrative nature of classical Ayurvedic knowledge, which is predominantly documented in ancient texts. These texts contain detailed descriptions of diseases, symptoms, treatments, and preventive measures, but they are written in descriptive language that is not readily compatible with computational systems. Furthermore, Ayurvedic diagnostic reasoning often involves implicit relationships and context-dependent interpretations, which are difficult to formalize using conventional data structures. As a result, translating this knowledge into a machine-readable format poses significant technical and methodological challenges.

In parallel, the rapid advancement of artificial intelligence and machine learning has opened new avenues for enhancing healthcare delivery. These technologies have demonstrated considerable success in areas such as disease prediction, clinical decision support, personalized medicine, and real-time patient monitoring. By leveraging large datasets and pattern recognition capabilities, AI systems can assist clinicians in making faster and more accurate decisions. However, when these technologies are applied to Ayurveda, existing implementations often fall short of expectations. Most current systems depend heavily on simplified data inputs, such as structured questionnaires or limited observational datasets, which fail to capture the depth and interdependence of Ayurvedic concepts. Consequently, the resulting models may achieve computational accuracy but lack interpretability, transparency, and alignment with traditional principles.

A critical challenge, therefore, lies in effectively bridging the gap between traditional Ayurvedic knowledge and modern computational intelligence. This requires more than the mere digitization of classical texts; it demands the development of structured representations that preserve the semantic integrity and logical relationships inherent in the original knowledge. In particular, it is essential to design methodologies that can extract meaningful patterns from textual sources, validate them

prakriti assessment [1], while comparative studies

against established Ayurvedic principles, and organize them into formats suitable for machine learning applications. Such an approach ensures that computational models do not operate as opaque “black boxes,” but instead remain grounded in interpretable and clinically relevant knowledge.

The present work addresses this challenge by proposing a systematic and algorithm-driven framework for knowledge extraction, validation, and modeling. The framework aims to convert unstructured textual information into structured datasets through a series of well-defined processing stages, including text parsing, semantic segmentation, entity recognition, and rule-based validation. By maintaining a clear separation between canonical knowledge and patient-specific variability, the approach ensures that all clinical insights remain traceable to their original sources. The ultimate objective is to develop an end-to-end system that not only leverages machine learning for predictive analysis but also delivers transparent and explainable treatment recommendations. Through the integration of these components into a user-friendly digital platform, the proposed system seeks to make Ayurvedic knowledge more accessible, operational, and relevant in the context of modern healthcare.

II. LITERATURE REVIEW

Research at the intersection of Ayurveda and artificial intelligence has expanded significantly in recent years, driven by the need to modernize traditional healthcare systems through computational techniques. A large body of work has focused on prakriti classification, where machine learning algorithms are applied to identify an individual's constitutional type based on structured inputs such as questionnaires or phenotypic traits. Several studies demonstrate that algorithms such as Random Forest, Support Vector Machines, and Naïve Bayes can achieve high classification accuracy in this domain [1]–[5]. For instance, multimodal AI approaches combining phenotypic and questionnaire data have been proposed to improve objectivity in have evaluated multiple classifiers to enhance prediction robustness [2]. Similarly, image-based and feature-driven approaches have attempted to



automate prakriti classification using measurable physical attributes [5].

Despite these advancements, a key limitation of such systems is their reliance on subjective or semi-structured inputs, which may introduce bias and reduce reproducibility. Questionnaire-based datasets, although widely used, often fail to capture the full complexity of Ayurvedic diagnostic reasoning [6], [7]. Furthermore, many models simplify prakriti into discrete categories, whereas classical Ayurveda recognizes overlapping and dynamic dosha states, which are not adequately represented in most computational approaches [8].

Another major research direction involves symptom-based disease prediction using machine learning models. These systems typically map patient-reported symptoms to potential diseases using supervised learning techniques. While such approaches show promising predictive performance, they often adopt a reductionist perspective that aligns more closely with modern biomedical paradigms than with Ayurvedic principles [9], [10]. As a result, critical aspects such as dosha imbalance, disease progression, and individualized context are frequently overlooked. This limits the interpretability and clinical relevance of the predictions within authentic Ayurvedic practice.

In parallel, researchers have explored treatment recommendation systems that aim to provide personalized therapies based on input symptoms or predicted conditions. These systems employ either rule-based logic or data-driven approaches to suggest herbal medicines, dietary plans, or lifestyle interventions [11]–[13]. Additionally, emerging work in computational Ayurveda has utilized techniques such as knowledge graphs and network pharmacology to analyze herbal formulations and their multi-target interactions

[14]. While these approaches represent important progress, they often rely on predefined mappings or curated datasets that are not explicitly derived from classical texts. Consequently, the recommendations generated by such systems may lack transparency and traceability, which are essential for clinical acceptance.

A broader perspective on AI in Ayurveda highlights both the opportunities and challenges associated with integrating traditional knowledge with modern data science. Studies emphasize the potential of AI to enable personalized healthcare, improve diagnostic consistency, and support clinical decision-making [15], [16]. At the same time, they also identify critical challenges, including data standardization, interpretability, and the preservation of traditional epistemology [15]. Recent advancements in domain-specific language models further demonstrate the importance of high-quality, curated datasets for achieving reliable performance in specialized domains such as Ayurveda [17].

Across all these research efforts, a common limitation emerges: the absence of a robust, textually grounded dataset that faithfully represents classical Ayurvedic knowledge. Most existing datasets are either questionnaire-based, limited in scale, or synthetically generated without rigorous validation [6], [18]. Moreover, there is limited emphasis on preserving the semantic relationships between diseases, doshas, symptoms, and treatments during dataset construction. This gap significantly constrains the development of interpretable and clinically meaningful AI systems.

The framework proposed in this paper addresses these limitations by introducing a structured and algorithm-driven pipeline for extracting knowledge directly from classical Ayurvedic texts. By combining text mining, semantic analysis, rule-based validation, and machine learning, the proposed approach ensures that all derived knowledge remains consistent with traditional principles while



being suitable for computational modeling. Unlike prior work, which focuses on isolated tasks such as classification or prediction, this framework provides an end-to-end solution that integrates dataset construction, predictive modeling, and explainable treatment recommendation.

Table I: Comparative Analysis of Existing Approaches and Proposed Work

Feature / Criteria	Prakriti Classification Systems	Symptom-Based Disease Prediction	Treatment Recommendation Systems	Proposed Framework
Primary Objective	Identify body constitution	Predict disease from symptoms	Suggest treatments	End-to-end CDSS (Diagnosis + Treatment)
Data Source	Questionnaires	Symptom datasets	Predefined mappings	Classical Ayurvedic texts + validated patterns
Use of the Dosha Concept	Partial	Limited or indirect	Often ignored	Central and explicit
Personalization	Moderate	Low to moderate	Moderate	High (context-aware patient modeling)
Dataset Quality	Subjective	Limited	Static rules	Structured, validated, scalable dataset
Textual Grounding	Absent	Minimal	Weak	Strong (directly from canonical texts)
Interpretability	Medium	Low	Medium	High (traceable to source knowledge)
Methodology	ML-based	ML-based	Rule/ML hybrid	Text mining + validation + ML pipeline
Handling of Context (Lifestyle, Environment)	Limited	Minimal	Partial	Comprehensive integration
Clinical Reliability	Moderate	Moderate	Moderate	High (due to validation and traceability)
Scalability	Limited	Moderate	Limited	High (via dataset expansion pipeline)
Innovation Level	Incremental	Incremental	Moderate	High (novel dataset + pipeline approach)



III. AYURVEDIC TECHNIQUES: DIAGNOSIS, TREATMENT, AND PRECAUTIONS

A. Diagnostic Techniques

Diagnosis in Ayurveda is inherently holistic and extends beyond the identification of isolated symptoms. It involves a comprehensive evaluation of the individual by considering physical characteristics, mental state, lifestyle habits, and environmental influences. A fundamental aspect of this process is the identification of imbalances among the three doshas—Vata, Pitta, and Kapha—which are believed to govern all physiological and pathological processes. Determining the dominant imbalance allows practitioners to understand the underlying cause of a disorder rather than merely addressing its external manifestations.

Classical diagnostic practices rely on systematic observation and examination techniques. Among these, the eightfold assessment method plays a significant role, encompassing evaluation of pulse, urine, stool, tongue, speech, tactile response, visual appearance, and overall body constitution. Each of these parameters provides insights into different aspects of bodily function and helps build a detailed clinical profile of the patient.

Equally important is the assessment of prakriti, or inherent body constitution, which reflects an individual's natural balance of doshas. This evaluation serves as a baseline for understanding susceptibility to specific diseases and responses to treatment. By integrating these diagnostic elements, Ayurveda enables a personalized approach that aligns therapeutic decisions with the unique characteristics of each individual.

B. Treatment Techniques

The primary goal of Ayurvedic treatment is to restore equilibrium within the body by addressing the root cause of imbalance. This is achieved through a combination of therapeutic strategies that include purification, medication, diet, and lifestyle adjustments. Rather than focusing solely

on symptom relief, treatment aims to re-establish harmony across physiological systems.

One of the central therapeutic approaches is Panchakarma, a structured set of cleansing procedures designed to remove accumulated toxins from the body. These procedures are carefully selected and customized based on the patient's dosha imbalance and overall health condition, ensuring that the intervention is both targeted and effective.

Herbal medicine forms another essential component of treatment, utilizing natural substances derived from plants, minerals, and other sources. These formulations are developed to correct specific imbalances while maintaining a favorable safety profile when used appropriately. Alongside medicinal interventions, dietary regulation plays a crucial role. Foods are selected and prescribed according to their properties and their influence on dosha balance, thereby supporting the healing process from within.

Lifestyle modification further enhances treatment outcomes by promoting sustainable health practices. Activities such as yoga, meditation, and adherence to structured daily routines help regulate physiological functions, reduce stress, and improve overall well-being. Together, these approaches create a comprehensive treatment framework that addresses both immediate health concerns and long-term balance.

C. Preventive Measures and Precautions

Prevention is a central principle in Ayurveda, emphasizing the maintenance of health rather than merely the treatment of disease. This is achieved through adherence to daily routines (dinacharya) and seasonal regimens (ritucharya), which are designed to align the body with natural cycles. Practices such as maintaining proper sleep patterns, following balanced nutrition, managing stress, and engaging in regular physical activity are considered essential for preserving dosha equilibrium and preventing illness.

Despite its natural and holistic approach, Ayurvedic treatment requires careful application.



The use of herbal formulations and therapeutic procedures without proper guidance may lead to unintended effects, particularly if they are not suited to the individual's constitution or condition. Therefore, accurate diagnosis and professional supervision are critical to ensuring safety and effectiveness. Consideration of individual variability—including age, lifestyle, and existing health conditions—is essential when designing preventive or therapeutic strategies.

Ayurveda offers a well-integrated system that combines diagnosis, treatment, and prevention within a unified framework. Its emphasis on personalization and balance makes it particularly relevant in the context of modern healthcare, where there is growing recognition of the importance of individualized and preventive approaches.

IV. METHODOLOGY

The proposed methodology introduces a structured framework for transforming traditional Ayurvedic knowledge into a machine-learning-compatible format. The core objective is to bridge the gap between unstructured classical medical literature and modern computational requirements without losing the semantic and clinical meaning embedded in the original texts.

Unlike conventional data preprocessing approaches that rely on generic text mining, this framework (as shown in Figure 1) is specifically designed to preserve Ayurvedic reasoning patterns such as the relationship between doshas, symptoms, and treatments. The entire pipeline is built to ensure that extracted knowledge remains interpretable, traceable, and aligned with authentic Ayurvedic principles while simultaneously enabling scalable machine learning applications.

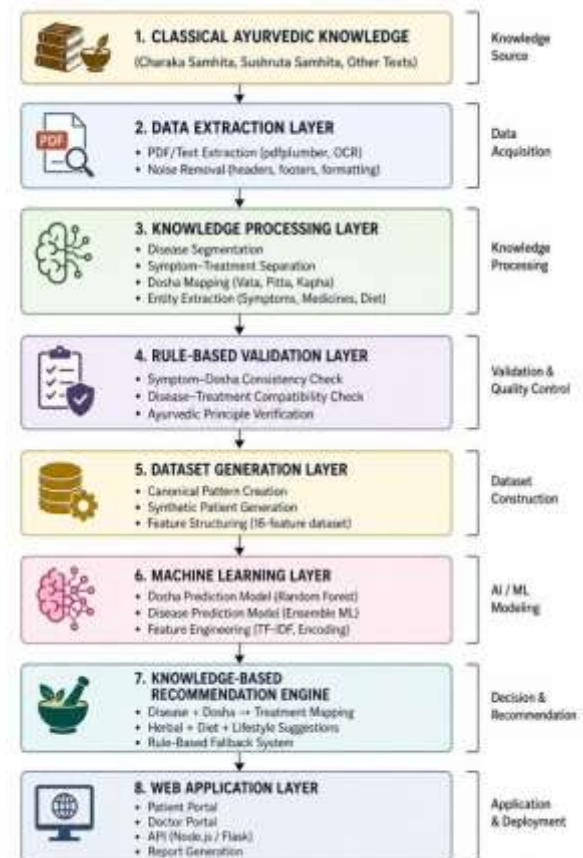


Figure 1: image Overall System Architecture of Ayurvedic AI Framework

A. Algorithmic Framework for Dataset Construction

The dataset construction framework (as shown in Figure 2) is designed as a structured multi-stage pipeline that transforms unstructured Ayurvedic textual knowledge into a well-defined machine learning dataset. The core objective of this process is to preserve the semantic integrity of classical medical knowledge while progressively converting it into a computationally usable format. Each stage of the pipeline performs a specific transformation, ensuring that clinical meaning, relationships, and contextual dependencies are retained throughout the process.

The framework begins with raw Ayurvedic texts in digital or scanned form and systematically progresses through extraction, cleaning, semantic segmentation, knowledge structuring, validation, and dataset generation. The final output is a structured dataset that can be directly utilized for predictive modeling tasks such as dosha classification and disease prediction.



Figure 2: Dataset Construction Pipeline Flowchart

Following the dataset construction pipeline illustrated in Figure 2, Table 2 presents a comparative example demonstrating the transformation of raw Ayurvedic textual content into a structured machine-readable format.

Table II: Raw Text vs Extracted Structured Dataset

S. No.	Raw Ayurvedic Text (Unstructured)	Extracted Structured Output
1	“Patient suffers from excessive thirst, burning sensation, and fatigue...”	Symptoms: Thirst, Burning, Fatigue
2	“Pitta imbalance leads to inflammation and heat disorders...”	Dosha: Pitta
3	“Recommended therapy includes cooling herbs and detoxification...”	Treatment: Cooling herbs, Detox therapy
4	“Diet should include light and cooling food items...”	Diet: Cooling foods (cucumber, rice)
5	“Kapha-related diseases show heaviness and lethargy...”	Dosha: Kapha
6	“Use herbal formulations to balance Vata dosha...”	Medicine: Vata-balancing herbal mix

The Ayurvedic knowledge-to-dataset transformation process is designed as a structured and reproducible pipeline that converts unstructured classical medical literature into a machine-learning-compatible dataset. The algorithm ensures that each stage of processing—from raw text extraction to final dataset formation—preserves the semantic and clinical meaning embedded within Ayurvedic principles. By integrating rule-based reasoning with structured information extraction, the framework maintains both interpretability and computational usability. The complete procedure is defined as follows:

Algorithm: Ayurvedic Knowledge-to-Dataset Transformation Pipeline

Input: Classical Ayurvedic texts (PDF / digital manuscripts)

Output: Structured machine learning dataset. The transformation process is defined as follows:

Step 1: Text Extraction

Extract raw textual content from Ayurvedic manuscripts using document parsing techniques such as PDF extraction and OCR where required.

Step 2: Data Cleaning

Remove irrelevant elements including headers, footers, page numbers, and formatting noise to obtain clean textual data.

Step 3: Knowledge Segmentation

Divide the cleaned text into disease-specific sections using contextual cues and keyword-based identification.

Step 4: Semantic Structuring

Further split each disease section into two major components:

- Symptom descriptions
 - Treatment descriptions
- Step 5: Dosha Mapping**

Assign the dominant dosha category (Vata, Pitta, Kapha) using predefined Ayurvedic linguistic and rule-based patterns.

Step 6: Entity Extraction

Extract structured clinical entities including:

- Symptoms
- Medicines
- Therapies
- Dietary recommendations

Step 7: Rule-Based Validation

Validate extracted patterns using Ayurvedic consistency rules to ensure clinical and logical correctness.

Step 8: Synthetic Instance Generation Generate multiple patient-level variations by modifying contextual attributes such as:



- Age
- Lifestyle factors
- Environmental conditions

Step 9: Dataset Formation

Store the final processed data in structured formats (CSV/JSON) for use in machine learning models.



Figure 3: Algorithm: Ayurvedic Knowledge-to-Dataset Transformation Pipeline

B. Machine Learning Integration Framework

After the dataset construction phase, the resulting structured data is employed for training machine learning models designed for predictive analytics. The dataset consists of heterogeneous feature types, including categorical attributes, numerical values, and textual symptom descriptions. As a result, a dedicated feature engineering process is required to transform all inputs into a unified numerical representation suitable for computational modeling.

Categorical variables such as lifestyle patterns, dietary habits, seasonal exposure, and environmental conditions are converted into numerical form using encoding techniques. In parallel, unstructured symptom descriptions are transformed into meaningful vector representations using methods such as TF-IDF, which capture the relevance and frequency of terms within the dataset. This combined transformation ensures that both structured and unstructured information can be effectively processed by machine learning algorithms.

To model the inherent complexity of Ayurvedic diagnosis, ensemble-based learning approaches are adopted. These methods integrate multiple base learners to improve predictive robustness, reduce variance, and enhance overall classification performance. Such models are particularly suitable for multi-class problems like dosha classification and disease prediction, where relationships between features are non-linear and highly context-dependent.



Figure 3 here: Feature Engineering and Machine Learning Model Pipeline

C. Knowledge-Based Treatment Recommendation System

The proposed framework does not depend exclusively on machine learning predictions for generating treatment outcomes. Instead, it incorporates a dedicated knowledge-based recommendation system designed to ensure that all therapeutic suggestions remain aligned with established Ayurvedic principles and authentic classical references.

The recommendation mechanism operates by establishing a structured mapping between the predicted disease and dosha combinations and a curated set of validated treatment profiles derived from the constructed dataset. These treatment profiles include herbal formulations, dietary prescriptions, therapeutic procedures, and recommended lifestyle practices. Each recommendation is directly associated with canonical Ayurvedic patterns, ensuring clinical relevance and interpretability.

In scenarios where an exact disease–dosha mapping is not available within the dataset, the system applies a fallback reasoning strategy based on fundamental dosha-balancing principles. This ensures that meaningful and contextually



appropriate recommendations can still be generated even under incomplete mappings.

This hybrid design significantly improves transparency and reliability, as every output is either grounded in validated textual knowledge or derived through explicit rule-based inference. As a result, the system supports both explainability and clinical trust, which are essential for real-world adoption in healthcare environments.



Figure 4: Knowledge-Based Recommendation Flow Diagram

To operationalize the proposed recommendation mechanism, the system organizes disease–dosha relationships into a structured mapping framework, which serves as the core reference for generating treatment outputs. The corresponding mappings and the overall inference workflow are illustrated in Table 3 and Figure 4, respectively.

Table III : Disease–Dosha to Treatment Mapping Examples

Disease	Dominant Dosha	Symptoms	Recommended Therapy	Herbal Formulations	Dietary Guidelines	Lifestyle Advice
Prameha	Kapha	Excessive urination, heaviness	Shodhana (detox therapy)	Gudmar, Triphala	Light, low-sugar diet	Regular physical activity
Amla Pitta	Pitta	Acidity, burning sensation	Cooling therapy	Yashtimadhu, Amla	Cooling foods (milk, cucumber)	Stress reduction, meditation
Vata Vyadhi	Vata	Joint pain, dryness, restlessness	Snehana (oleation therapy)	Ashwagandha, Bala	Warm, oily, nourishing diet	Stable routine, adequate rest
Kasa (Cough)	Kapha	Cough, mucus accumulation	Vamana (emesis therapy)	Tulsi, Pippali	Warm, light diet	Steam inhalation, hygiene care

V. RESULTS AND DISCUSSION

The experimental results indicate that structured datasets derived from curated Ayurvedic knowledge sources can effectively support machine learning models with strong predictive capability. The dosha classification model demonstrates high accuracy, suggesting that the engineered feature space successfully captures meaningful patterns associated with Ayurvedic constitutional types. Similarly, the disease prediction model shows performance comparable to existing approaches in related studies.

Despite these encouraging results, the evaluation also highlights the critical role of dataset quality in determining model performance. Although

synthetic data generation ensures controlled variability and scalability, it may not fully reflect the complexity and diversity of real-world clinical conditions. This introduces potential limitations in generalization when applied to unseen patient populations.

Therefore, further improvements should focus on integrating real clinical datasets and conducting validation in practical healthcare settings. Such enhancements would strengthen the robustness and reliability of the proposed system.

VI. CONCLUSION

This study presents a structured and transparent framework that integrates Ayurvedic medical knowledge with artificial intelligence techniques. By systematically converting classical textual



information into machine-learning-compatible datasets, the proposed approach enables predictive modeling while preserving the interpretability and authenticity of traditional Ayurvedic principles.

The integration of machine learning models with a knowledge-based recommendation engine ensures that predictions are not only accurate but also explainable and clinically meaningful. This combination bridges the gap between traditional medical systems and modern computational intelligence.

Future work will focus on expanding the dataset with real clinical records, improving model generalization, and incorporating advanced learning techniques to further enhance diagnostic precision and therapeutic recommendation quality.

REFERENCES

- [1] V. Kottawar *et al.*, “Artificial Intelligence for Objective Prakriti Assessment in Ayurveda: A Multimodal Approach,” *Int. J. Environ. Sci.*, 2025.
- [2] S. Majumder *et al.*, “On Intelligent Prakriti Assessment in Ayurveda: A Comparative Study,” 2023.
- [3] G. Salvi and P. Kadam, “Prakriti Analysis Using AI: A Convergence of Ayurveda and Modern Technology,” 2025.
- [4] L. Bheemavarapu and K. U. Rani, “Machine Learning Models for Prakriti Identification,” 2023.
- [5] A. Trivedi and D. Patel, “Human Prakriti Classification Using Image Processing and ML,” 2025.
- [6] A. K. Singh and J. Singh, “Prakriti200: A Questionnaire-Based Dataset,” 2025.
- [7] S. Parshionikar and A. Lopes, “AI-Based Prakriti Prediction Using ML,” 2025.
- [8] P. Bidve *et al.*, “Enhancing Ayurvedic Diagnosis Using Naive Bayes and Clustering,” 2023.
- [9] S. S. Mallajosyula, “AI and ML in Ayurveda: Bridging Traditional Wisdom,” 2025.
- [10] T. Pathak *et al.*, “AI in Personalized Ayurveda,” 2026.
- [11] “AI-Driven Ayurvedic Healthcare Systems,” Various Studies, 2023.
- [12] “Decision Tree-Based Disease Prediction in Ayurveda,” 2022.
- [13] “Machine Learning-Based Ayurvedic Medicine Recommendation,” 2023.
- [14] P. Sil *et al.*, “Computational Investigation of Ayurvedic Herbal Drugs Using Knowledge Graphs,” 2026.
- [15] “Artificial Intelligence in Traditional Medicine: Evidence and Challenges,” 2022.
- [16] “AI for Clinical Decision Support in Ayurveda,” 2023.
- [17] M. Nauman *et al.*, “AyurParam: A Bilingual Language Model for Ayurveda,” 2025.
- [18] “Evolution of Scientific Validation Tools in Ayurveda,” 2021.
- [19] “Comparative Analysis of ML Algorithms for Ayurvedic Diagnosis,” 2022.
- [20] “Integration of Machine Learning in Ayurvedic Healthcare Systems,” 2023.