IJIRIS: International Journal of Innovative Research in Information Security E-ISSN: 2349-7017
Volume 11, Issue 09, November 2025 P-ISSN: 2349-7009
https://www.ijiris.com/archives
https://doi.org/10.26562/ijiris.2025.v1109.13

AI-Powered Diet Management for Ayurvedic Practice

Dr.Mahesh A
Professor, Department of CSE
Sri Sairam College of Engineering, Bengaluru ,India
legacymahesh@gmail.com
https://orcid.org/0000-0002-8738-1453
Roshini Sri S,Tirikireddygari Pallavi, Pranathi D K, Rakshitha L
Department of CSE
Sri Sairam College of Engineering, Bengaluru ,India
sce23cs005@sairamtap.edu.in , sce23cs108@sairamtap.edu.in
sce23cs87@sairamtap.edu.in, sce23cs070@sairamtap.edu.in

Publication History
Manuscript Reference No: IJIRIS/RS/Vol.11/Issue09/NVIS10092
Research Article Open Access| Double-Blind Peer-Reviewed| Article ID: IJIRIS/RS/Vol.11/Issue09/NVIS10091 Received: 28, October 2025, Revised: 05, November 2025, Accepted: 12, November 2025, Published Online: 21, November 2025.
https://www.ijiris.com/volumes/Vol11/iss-09/13.NVIS10092.pdf
Citation: Dr.Mahesh,Roshini,Tirikireddygari,Pranathi,Rakshitha(2025),Student Behavior Analysis in Class Room, IJIRIS: International Journal of Innovative Research in Information Security,Volume 11, Issue 09 of 2025 pages 529-533
Doi:> https://doi.org/10.26562/ijiris.2025.v1109.13
BibTeX Key: Dr.Mahesh@2025Student
IJIRIS papers should be cited as IJIRIS (International Journal of Innovative Research in Information Security, AM Publications, India 2025, ISSN 2349-7017, https://doi.org/10.26562/ijiris.2025.v1109.13 The journal's official abbreviation is IJIRIS.
Orcid: https://orcid.org/0009-0004-9398-7488

Abstract: This research presents AyurVision, a cloud-based system that combines Ayurvedic dietary principles with modern nutrition to offer personalized health recommendations. The platform uses artificial intelligence and machine learning to streamline diet planning based on an individual's Prakriti, Dosha balance, and nutritional needs. It benefits both practitioners and patients with secure cloud storage, automated nutrient analysis, and real-time diet recommendations. For practitioners, AyurVision improves efficiency through automated patient management and telehealth connectivity. For patients, it provides a simple interface to receive personalized diet suggestions via text, voice, or image input. By merging traditional Ayurvedic knowledge with digital technologies, the system offers a holistic, scalable, and accessible solution for modern wellness and personalized healthcare.
Keywords: Ayurveda,Artificial Intelligence, Cloud Computing, Nutrition,Telehealth, Personalized Diets.

I. INTRODUCTION

Ayurveda is one of the oldest and most holistic healthcare systems. It focuses on achieving and maintaining a healthy balance between the body, mind, and spirit. It teaches that everyone has a unique physiological and psychological makeup, called Prakriti, which determines their dietary and lifestyle needs. Among Ayurveda's core principles, Ahara, or diet, is the most crucial for staying healthy and preventing illness. The Ayurvedic diet emphasizes matching food choices with one's Prakriti, seasonal changes (Ritu), and environmental factors to encourage balance and longevity. Today, as technology and data-driven medical practices grow, keeping personalized dietary recommendations has become more complicated. Healthcare systems depend on digital records, health-tracking devices, and large datasets filled with patient information. However, analyzing such vast amounts of data to create individual Ayurvedic diet plans takes a lot of time and can lead to errors. Therefore, there is an urgent need for a smart and automated method to combine traditional Ayurvedic ideas with modern computing tools. Artificial Intelligence (AI) has great potential to change healthcare through data processing, predictive modeling, and pattern recognition. When used in Ayurveda, AI can connect traditional knowledge with modern medicine. By taking into account patient data like Prakriti type, health history, and nutritional needs, AI can suggest personalized dietary plans that are grounded in science and true to Ayurvedic teachings. This research presents an AI-powered diet management system made for Ayurvedic use. The system combines Prakriti-based analysis with nutrient computation to provide tailored, data-driven dietary plans. By merging ancient Ayurvedic wisdom with the analytical strength of AI, this approach seeks to modernize traditional dietary management, improve clinical efficiency, and support a more comprehensive and tech-savvy healthcare system.

II. LITERATURE SURVEY

Ayurvedic dietetics is fundamentally based on the principles of Prakriti, which refers to an individual's body constitution, and Doshas: Vata, Pitta, and Kapha. These elements together define a person's physical, physiological, and psychological traits. According to Ayurveda, maintaining a balance of these Doshas through an appropriate diet and lifestyle is vital for optimal health and preventing illnesses.

IJIRIS: International Journal of Innovative Research in Information Security E-ISSN: 2349-7017
Volume 11, Issue 09, November 2025 P-ISSN: 2349-7009
https://www.ijiris.com/archives
https://doi.org/10.26562/ijiris.2025.v1109.13

Each person needs a unique dietary pattern that suits their dominant Dosha type, metabolic tendencies, and environmental conditions. Recent developments in nutritional science support this traditional viewpoint. They highlight the importance of personalized nutrition for improving overall health and managing chronic conditions. Studies in genomics, metabolism, and precision medicine have indicated that personalized dietary interventions are more effective than general nutritional guidelines. This connection between Ayurveda and modern personalized nutrition creates an opportunity for an integrated, evidence-based dietary management approach. Currently, several Ayurvedic practice management systems, such as Clinicea and AyurGrid, help practitioners manage patients, keep health records, and prescribe herbal formulations. However, these platforms mainly focus on administrative tasks and treatment documentation, not comprehensive dietary analysis. They often lack features for nutrient-level computation or AI-driven meal planning. In contrast, Western nutrition management software, such as DietSoft and Food Processor, offers detailed nutrient tracking, caloric analysis, and meal planning tools but does not include Ayurvedic principles like Prakriti or Dosha balance. This gap emphasizes a significant research need: the lack of a unified system that combines Ayurvedic dietary wisdom with modern nutritional science. Closing this gap could change personalized healthcare by merging the holistic, constitution-based approach of Ayurveda with the precision and data-driven aspects of modern nutrition analytics. Artificial Intelligence offers a strong solution to this challenge. By analyzing large datasets, AI can link Ayurvedic parameters with modern nutritional profiles, allowing for the creation of a hybrid, intelligent dietary recommendation model. This system would not only streamline and personalize diet planning but also maintain the essence of Ayurveda while improving it through technological advancements.

III. EXISTINGSYSTEM

Existing Ayurvedic practice management systems support clinical operations by helping practitioners maintain patient records, assess Prakriti, and manage prescriptions. These systems digitize traditional Ayurvedic consultation processes, making documentation and patient follow-up easier. However, most of these platforms do not include advanced Artificial Intelligence (AI) features for dietary computation or personalized meal planning. Their focus remains mainly on administrative tasks and lacks the analytical intelligence needed to process and interpret nutritional information according to Ayurvedicprinciples. In a similar way, several modern nutrition and wellness applications, such as AyushEHR, NutritioApp, and 8well, provide users with health tracking, calorie monitoring, and meal planning help. While these applications offer valuable insights based on modern nutrition science, they are built for conventional dietary systems and do not consider Ayurvedic dietary frameworks that take into account Doshas, Prakriti, and seasonal variations (Ritu). As a result, their suggestions often overlook the individual's specific needs highlighted in Ayurveda. A major limitation of both Ayurvedic management tools and modern nutrition apps is the lack of structured and integrated datasets that fit Ayurvedic dietary standards. Without these datasets, it becomes difficult to analyze, compare, or create precise diet plans based on traditional principles. This absence of data standardization and AI-driven computation leads to limited accuracy, personalization, and flexibility in dietary recommendations. Therefore, there is a strong need for a system that can effectively combine the strengths of Ayurveda and modern nutrition, using AI to interpret traditional dietary guidelines in a data-driven, personalized, and scalable way.

IV. PROPOSEDSYSTEM: AYURVISION

The proposed system, named **"Ayur Vision,"** is an AI-powered platform designed to connect traditional Ayurvedic dietary science with modern nutritional calculations. The main goal of AyurVision is to provide a smart, data-driven dietary recommendation system that combines Ayurvedic principles with current nutrition analysis. By merging ancient wisdom with modern technology, the system seeks to deliver personalized, flexible, and fact-based dietary guidance to healthcare providers and patients. The platform is structured into three main functional modules: the Doctor Module, the Patient Module, and the AI Recommendation Engine. Each module plays a unique but connected role in the ecosystem.

1. **Doctor Module** This module serves healthcare professionals and Ayurveda practitioners. It features a secure login and authentication system to ensure data privacy and authorized access. Doctors can register and manage patients, record Prakriti assessments, track health progress, and create prescriptions. The system also allows practitioners to review AI-generated dietary suggestions and adjust them based on clinical judgment. This integration aids effective consultation and improves the accuracy of personalized diet planning.
2. **Patient Module** The patient interface is user-friendly and easy to navigate. Patients can log in to their accounts and enter dietary preferences, allergies, or restrictions in various ways, including text entry, voice input, or image upload. The module offers interactive features such as daily reminders, progress tracking, and feedback options to ensure ongoing engagement and adherence to the recommended diet. Through this interface, users can also interact with an integrated chatbot assistant that gives instant responses to general dietary questions, providing real-time support and motivation.
3. **AI Recommendation Engine** The heart of AyurVision is the AI Recommendation Engine, which combines Ayurvedic datasets with modern nutrition databases. The engine conducts detailed analysis by processing patient information like Prakriti type, Dosha imbalances, medical conditions, and personal food preferences. Using machine learning models, the system creates dynamic, personalized diet plans that align Ayurvedic principles with scientifically supported nutritional values. It adjusts recommendations in real time based on updates to the patient's health status or feedback. The AI model's predictive abilities support decision-making for both patients and practitioners, leading to more effective and well-rounded dietary results. To ensure data security, scalability, and accessibility, all information is stored in a cloud-based system. Cloud storage allows multi-user access, smooth synchronization, and secure backup management while adhering to healthcare data privacy standards.

IJIRIS: International Journal of Innovative Research in Information Security
Volume 11, Issue 09, November 2025
E-ISSN: 2349-7017
P-ISSN: 2349-7009
https://www.ijiris.com/archives
https://doi.org/10.26562/ijiris.2025.v1109.13

TIME	MEAL/ACTIVITY	WHAT TO TAKE	REASON/BENEFIT
6:00 – 7:00 AM	Detox Drink	Warm water + Methi/Cinnamon Water	Improves insulin sensitivity
7:30 – 8:30 AM	Breakfast	Ragi dosa/Veg upma/oats+almonds	Low GI ,study energy
10:30 – 11:00 AM	Mid-Morning	Amla juice/buttermilk	Improves digestion
1:00 1:30 PM	Lunch	Chapathi +dal+bitterguard/ greens+brown rice	Supports pancreas,fibre rich
4:00 – 5:00 PM	Evening Snack	Green tea+nuts	Maintains Gluvose level
7:00 – 8:00 PM	Dinner	Veg soup+chapathi(no rice)	Easy digestion
9:30 – 10:00 PM	Bed Time	Triphala in warm water	Gut health and metabolism

SYSTEM ARCHITECTURE

The AyurVision architecture has a three-tier layered design, which ensures modularity, efficiency, and secure data transmission between components.

Front-End Layer:

This layer offers a responsive and interactive user interface for doctors and patients. It uses modern web technologies, allowing smooth navigation, form submissions, and visualization of personalized diet charts.

Back-End Layer:

The back-end handles data processing, AI computations, and secure API communications. It manages authentication, prescription management, and AI model execution for dietary analysis. RESTful APIs ensure effective communication between the client interface and the AI modules.

Cloud Layer:

The cloud infrastructure takes care of data storage, authentication services, and real-time synchronization between users and the system. It also hosts AI models and guarantees encrypted data transfer to maintain patient confidentiality.

All three layers connect through RESTful APIs, enabling encrypted, reliable, and real-time communication between the system components. This setup ensures smooth functionality and strong security.

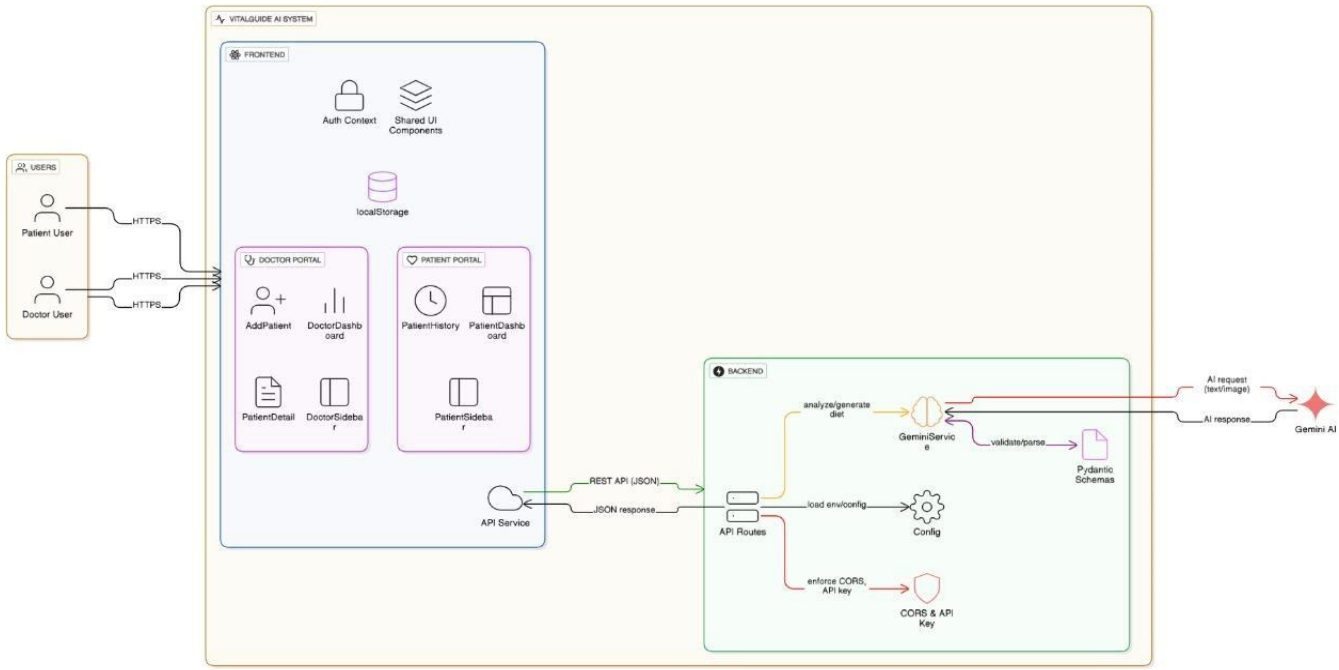

Fig. 1 Illustrates the overall system architecture of AyurVision, depicting the interaction between the front-end interface, back-end modules, and cloud infrastructure.

IJIRIS: International Journal of Innovative Research in Information Security E-ISSN: 2349-7017
Volume 11, Issue 09, November 2025 P-ISSN: 2349-7009
https://www.ijiris.com/archives
https://doi.org/10.26562/ijiris.2025.v1109.13

Technology Stack

To implement AyurVision efficiently, the following technologies and frameworks are used:

- Front-End: React.js, HTML5, CSS3 for developing a responsive and modern user interface.
- Back-End: Node.js and Python (Flask) for handling API requests, data flow, and executing AI models.
- Database: Firebase / MongoDB for managing secure, scalable, and real-time databases.
- AI/ML Frameworks: TensorFlow and Scikit-Learn for Prakriti classification, Dosha analysis, and creating personalized meal prediction models.
- Cloud Services: Google Cloud Platform (GCP) / Amazon Web Services (AWS) for data hosting, scalability, and secure cloud operations.
- APIs:Nutritionix API and Ayurvedic food data APIs integrated to access reliable nutritional information and traditional dietary datasets.

V. RESULT AND DISCUSSION

The AyurVision platform brings a new approach to Ayurvedic healthcare by improving the efficiency and accuracy of clinical practices. By using Artificial Intelligence (AI) and cloud technologies, the system simplifies patient management, dietary planning, and progress tracking. It gives Ayurvedic practitioners modern digital tools that complete routine tasks like patient registration, Prakriti assessment, prescription creation, and diet tracking. This automation reduces administrative work and lowers the chance of mistakes during data entry or analysis. For practitioners, AyurVision acts as a valuable practice management and analytical assistant. The system organizes patient data, creates helpful reports, and shows health trends through charts. These features aid practitioners in tracking progress, assessing treatment outcomes, and making informed decisions. The platform also supports telehealth consultations, allowing doctors to offer dietary advice remotely. This expands access to care for patients, no matter their location. From the patient's viewpoint, AyurVision provides an interactive and personalized experience. The AI recommendation engine analyzes real-time data, such as Dosha imbalances, health conditions, and dietary preferences, to create diet plans tailored to individual needs. Patients get instant notifications, reminders, and feedback to help them stick to their diets. The system features a chatbot that engages users by answering common questions, offering support, and encouraging healthy habits. One of AyurVision's key strengths is its predictive analysis. By using AI algorithms and collected health data, the system can spot health trends, predict nutritional gaps, and suggest preventive steps early on. This proactive approach to diet planning changes the traditional reactive healthcare model into a personalized one. Additionally, visualizing patient progress and dietary effects helps both doctors and patients better understand treatment effectiveness, improving overall care and health results. In summary, AyurVision enhances Ayurvedic practice by blending traditional principles with modern technology. It boosts efficiency, accuracy, and access, benefiting both healthcare providers and patients while laying the groundwork for future developments in AI-driven personalized medicine in Ayurvedic healthcare systems.

VI.CONCLUSION

The AyurVision system represents a major step forward in digital Ayurveda, blending traditional Ayurvedic wisdom with modern technology. It connects classical dietary principles with current nutrition science, offering a structured approach to personalized healthcare. AyurVision supports precise and flexible diet planning based on an individual's Prakriti, Dosha balance, and medical conditions. This ensures that dietary recommendations are scientifically sound and beneficial to overall health. With its smart automation and AI-driven analytics, AyurVision boosts clinical efficiency by aiding practitioners in managing patients, assessing diets, and tracking progress. Its ability to create personalized diet plans in real-time reduces the need for manual input and lowers the risk of human error. This empowers practitioners to make informed decisions based on evidence. For patients, the system provides an interactive experience through instant feedback, regular reminders, and ongoing monitoring of health progress. The cloud-based design of AyurVision adds to its strength and ability to scale. It allows for smooth data synchronization and secure access for multiple users. The system keeps data safe with encrypted communication and follows healthcare data protection standards. This setup enables remote consultations and telehealth services, broadening the reach of Ayurvedic care beyond traditional clinic walls. Looking forward, there is significant potential to enhance the AyurVision system. Future updates will aim to expand the Ayurvedic and nutritional databases to improve the accuracy of Dosha-based predictions and dietary suggestions. Incorporating wearable IoT devices, like smartwatches and health sensors, will facilitate real-time monitoring of vital signs such as heart rate, sleep, and activity levels. This continuous health data will refine AI models for even more dynamic and adaptable diet management. In summary, AyurVision represents the meeting point of ancient Ayurvedic concepts and next-generation AI and cloud technologies. It creates a sustainable model for personalized nutrition and paves the way for smart, holistic healthcare systems that respect traditional knowledge while adopting modern advancements.

ACKNOWLEDGEMENT

The authors sincerely thank Sri Sairam College of Engineering, Bengaluru, for their encouragement, guidance, and essential resources that made this research possible. The supportive academic environment and access to technical tools were crucial for completing this study. The authors also appreciate the faculty members and research coordinators for their helpful suggestions, feedback, and motivation during the development of the AyurVision project. Their support and inspiration were essential in turning this research idea into a valuable contribution to digital Ayurveda.

CONFLICTS OF INTEREST

The authors declare that there are no conflicts of interest related to the publication of this research paper. The study was done independently, and no financial, professional, or personal relationships affected the outcomes, interpretations, or conclusions in this work. All contributions were made only for academic and research purposes, aiming to improve knowledge in the field of Artificial Intelligence and Ayurvedic healthcare integration. The authors confirm that the research was conducted with full transparency, integrity, and respect for ethical standards.

REFERENCES

1. Role of Information Technology in Ayurveda, https://journals.lww.com/ ijar/fulltext/2023/ 04040/role_of _information _technology_in_ayurveda.2.aspx
2. Artificial intelligence in personalized nutrition and food,https://akjournals.com/view/journals/066/aop/article-10.1556-066.2025.00210/article-10.1556-066.2025.00210.xml
3. AI-based approach for personalized nutrition recommendations, https://www.frontiersin.org /journals /nutrition/articles/10.3389/fnut.2025.1636980/full
4. An AI Dietitian for Type 2 Diabetes Mellitus Management (*JMIR*, 2023) ,https://www.jmir.org/2023/1/e51300/ Human Prakriti classification using machine learning / image processing, https://jisem-journal.com /index.php/ journal/ article /view /6973