

Feature 5: AI-Powered Disease Prediction & Symptom Checker (AI-Based)

This feature brings intelligent assistance to the healthcare system by predicting possible diseases based on **patient symptoms** and **historical data**. Using a trained machine learning model (such as **Random Forest** or **Naive Bayes**), the system analyzes symptoms entered by the patient and suggests likely diseases with confidence scores (e.g., 85% chance of diabetes). The model is trained using a disease–symptom dataset and integrated with the system via an **API**. This feature helps patients understand their possible conditions early and supports doctors in faster and more accurate diagnosis.

Feature 6: AI-Based Smart Recommendations & Preventive Care (Database + AI Integrated)

This hybrid feature combines database insights with AI intelligence to guide patients toward better health decisions. The system analyzes **stored medical data, age, lifestyle, and history to recommend suitable doctors, required tests, or preventive checkups**. For example, it may remind a diabetic patient to book an annual eye exam or suggest a cardiologist if certain risk patterns appear. This feature uses AI algorithms trained on patient data and connected to database tables like **Patients**, **Appointments**, and **Medical Records**. Its purpose is to promote proactive healthcare, reduce disease risks, and enhance overall patient well-being through personalized, data-driven recommendations.

- **Feature Connected to the Estimated Database Tables**

No	Database Table Name	Purpose / Description	Used in Features
1	Patients	Stores patient demographic details such as ID, name, age, gender, contact info, and login credentials. Acts as the core table linking medical records, appointments, and billing data.	Feature 1: Patient & Medical Record Management Feature 2: Doctor & Appointment Management Feature 4: Billing & Insurance Automation Feature 6: AI-Based Smart Recommendations & Preventive Care
2	MedicalRecords	Maintains patient medical history, including diagnoses, treatments, prescriptions, and lab test summaries, linked by PatientID.	Feature 1: Patient & Medical Record Management Feature 3: Prescription & Investigation Management Feature 5: AI-Powered Disease Prediction &

			Symptom Checker
3	Doctors	Stores doctor details such as ID, specialization, contact info, and available schedule. Supports linking with appointments and prescriptions.	Feature 2: Doctor & Appointment Management Feature 3: Prescription & Investigation Management Feature 6: AI-Based Smart Recommendations & Preventive Care
4	Appointments	Manages appointment details like appointment ID, PatientID, DoctorID, date/time, and status (booked, cancelled, completed).	Feature 2: Doctor & Appointment Management Feature 6: AI-Based Smart Recommendations & Preventive Care
5	Prescriptions	Stores doctor-issued prescriptions with secure digital signatures, medicine details, and issue date linked to both PatientID and DoctorID	Feature 3: Prescription & Investigation Management
6	Investigations	Contains diagnostic and laboratory test results, including report files, test types, and results linked to each patient.	Feature 3: Prescription & Investigation Management Feature 5: AI-Powered Disease Prediction & Symptom Checker
7	Billing	Tracks billing information such as invoice ID, PatientID, service charges, payment mode, and payment status.	Feature 4: Billing & Insurance Automation
8	InsuranceClaims	Manages patient insurance details, claim submissions, approval/rejection status, and payment tracking.	Feature 4: Billing & Insurance Automation
9	SymptomsInput	Stores patient-entered symptoms and responses that the AI model uses for disease	Feature 5: AI-Powered Disease Prediction & Symptom Checker

		prediction.	
10	Disease Predictions	Stores AI-generated disease predictions, confidence scores, and timestamps for analysis and record keeping.	Feature 5: AI-Powered Disease Prediction & Symptom Checker
11	Recommendations	Contains AI-based suggestions for doctors, tests, and preventive actions personalized for each patient.	Feature 6: AI-Based Smart Recommendations & Preventive Care
12	HealthReminders	Stores preventive care reminders (e.g., yearly checkups, blood tests) automatically generated based on patient history.	Feature 6: AI-Based Smart Recommendations & Preventive Care