

SMART INDIA HACKATHON 2024



- **Team Name : RISE**
- **Problem Statement : AI-Enhanced Healthcare Diagnostics and Management System inspired by ZK Medical Billing Platform**

- **Team Members :**

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IDEA/ SOLUTION



Efficient Healthcare Management :

- Inspired by the ZK Medical Billing Platform, this project uses AI and ML to improve medical diagnostics and streamline patient management.

AI-Powered Diagnostics :

- Machine learning models analyze patient data (e.g., medical history, lab results, imaging) to identify patterns, diagnose conditions, and predict health risks.

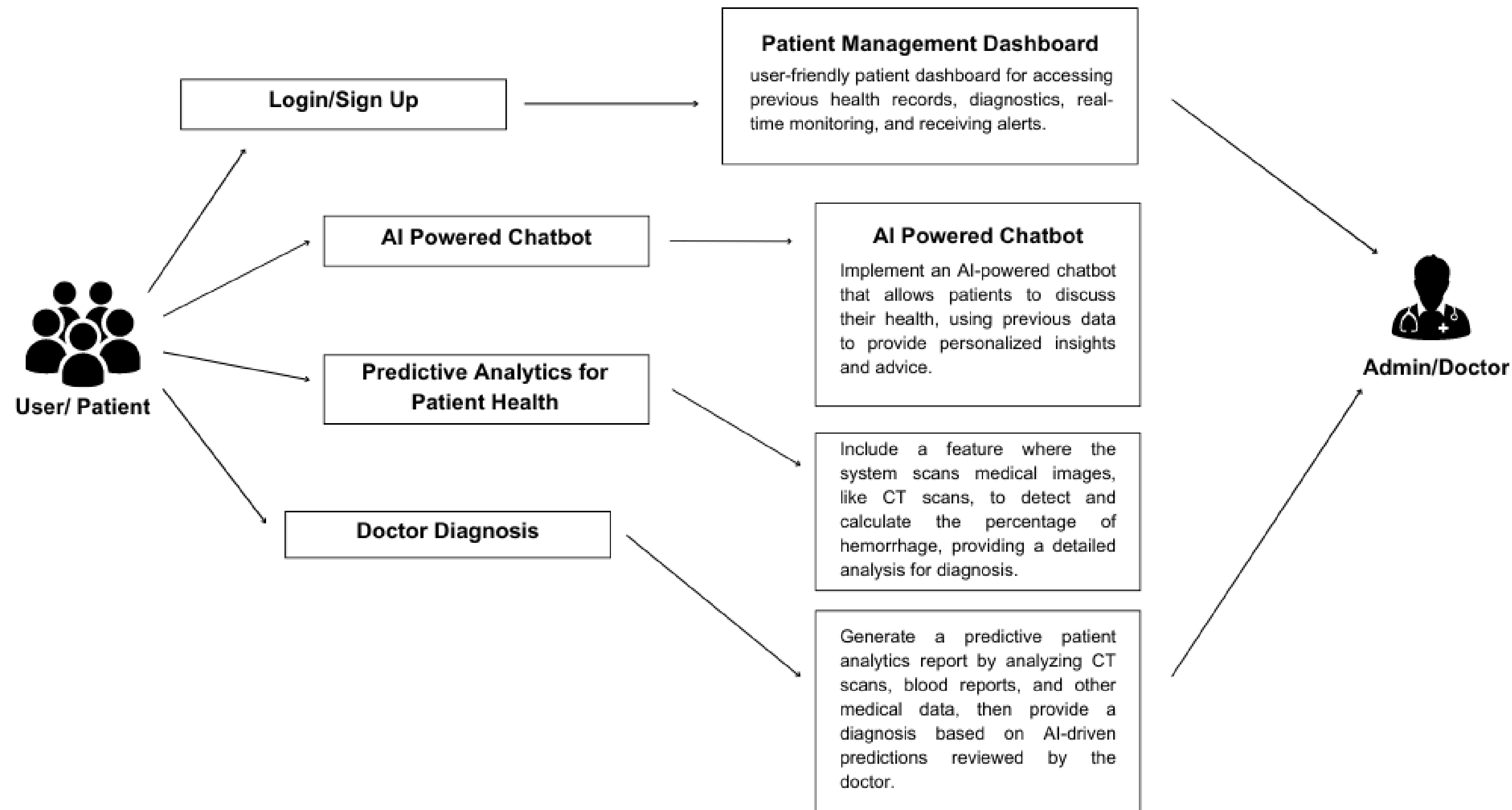
Real-Time Health Monitoring :

- Tracks patient vitals, providing immediate alerts for anomalies that need urgent attention.

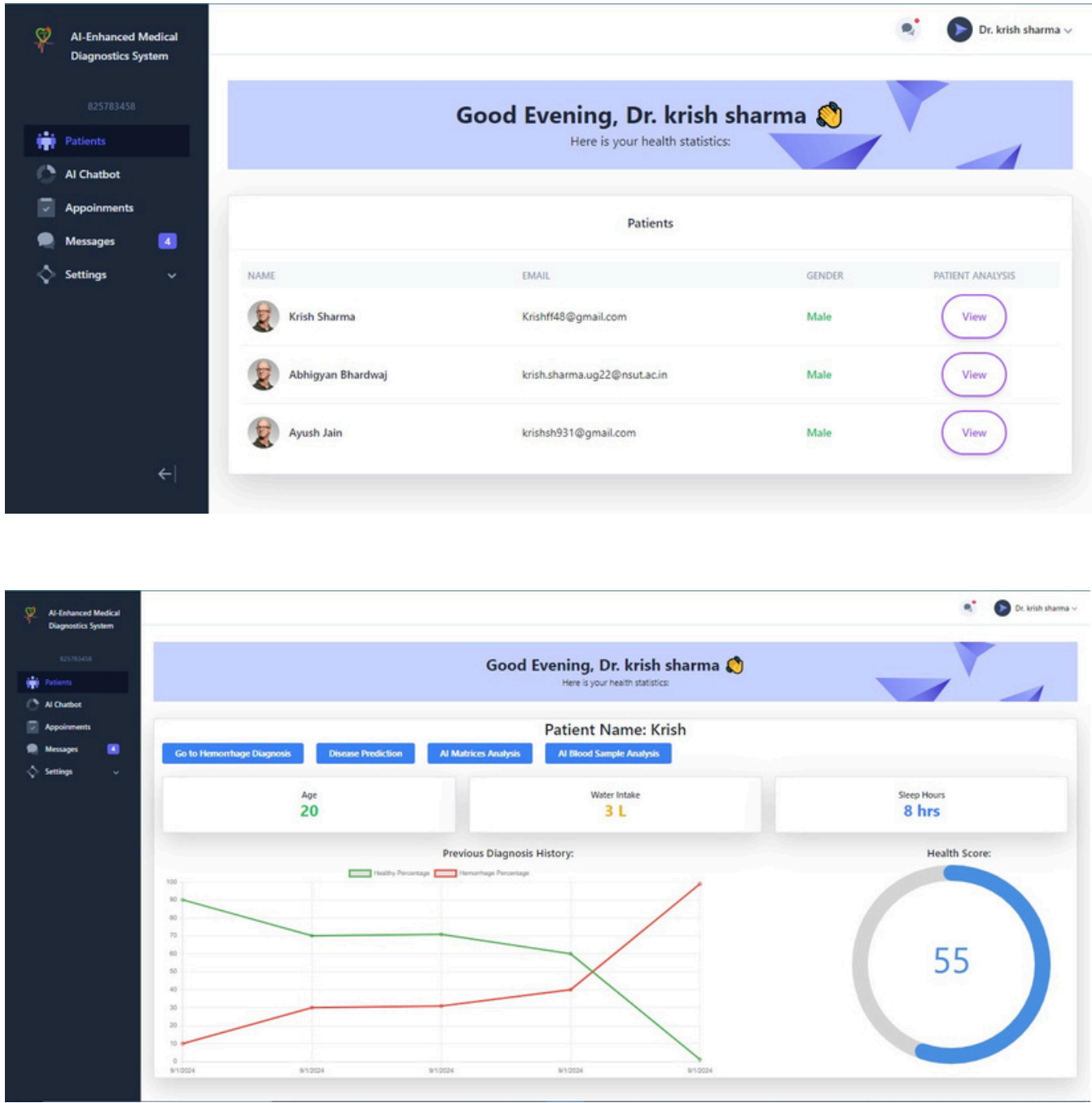
Comprehensive Dashboard :

- A user-friendly dashboard allows healthcare providers to manage patient data, view diagnostic results, and track treatment progress with visualization tools.

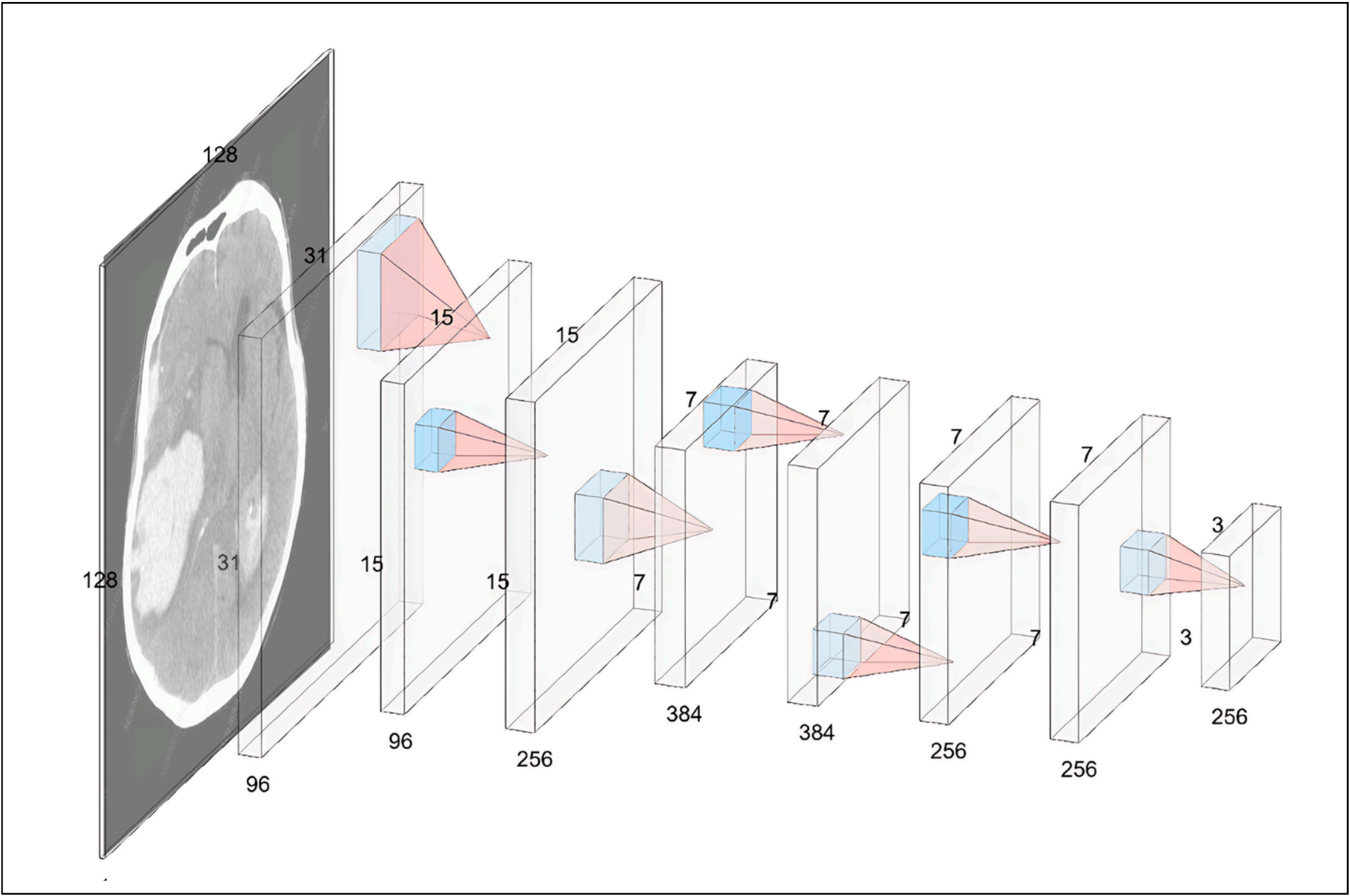
Process Flow Chart



OUR PROTO TYPE



USER FRIENDLY DASHBOARD WITH MULTIPLE FEATURES



CNN Model used for Brain Hemorrhage Detection

Tech Stack



Image Classifier : Built using **TensorFlow** and **Keras** to train models on various diseases, like brain hemorrhage, using CT scan images. Achieved **99% accuracy** in disease detection through advanced image classification techniques.

Chatbot Development : Created using **LLaMA AI** (7 million parameters) for conversational capabilities. Embedded with **GPT-Large** for enhanced **natural language processing** and accurate health-related responses.

Web Development : Dashboard and API : Developed using **Flask** for backend API integration.

Frontend/Backend: Built with **HTML, CSS, JavaScript, React,** and **Node.js** for a responsive and user-friendly interface.



Business Model



Subscription Model: Healthcare providers pay a recurring fee to access the platform, including updates and support.

Licensing: Licensing the AI algorithms and diagnostic tools to hospitals, clinics, and other healthcare institutions.

Data Analytics Services: Offering advanced data analytics services for research institutions and pharmaceutical companies.

Custom Integrations: Charging fees for customized integrations with existing healthcare systems and electronic health records (EHRs).

Consulting and Training: Charging for expert consulting services and training on implementing and using the platform effectively.

Impacts, Benefits & Feasibility



Impacts:

- Improved Diagnostic Accuracy: Early, precise detection of diseases.
- Enhanced Patient Care: Personalized treatments and real-time monitoring.
- Efficiency: Streamlined healthcare processes and faster diagnostics.

Benefits:

- Cost Savings: Lower healthcare costs through accurate diagnostics.
- Patient Empowerment: Easy access to health data and AI insights.
- Scalability: Easily expands to serve more users and integrate new features.
- Accessibility: Remote access ideal for telemedicine and underserved areas.

Feasibility:

- Technological: Uses proven technologies like TensorFlow and LLaMA AI.
- Development: Requires a skilled team in AI, web development, and healthcare.
- Cost: Balanced by long-term savings and diverse revenue streams.
- Regulatory: Complies with healthcare laws and privacy standards.

