



MedCortico

Presented By: TechMakers



Problem Statement

AI-Enhanced Healthcare Diagnostics and Management System inspired by ZK Medical Billing Platform

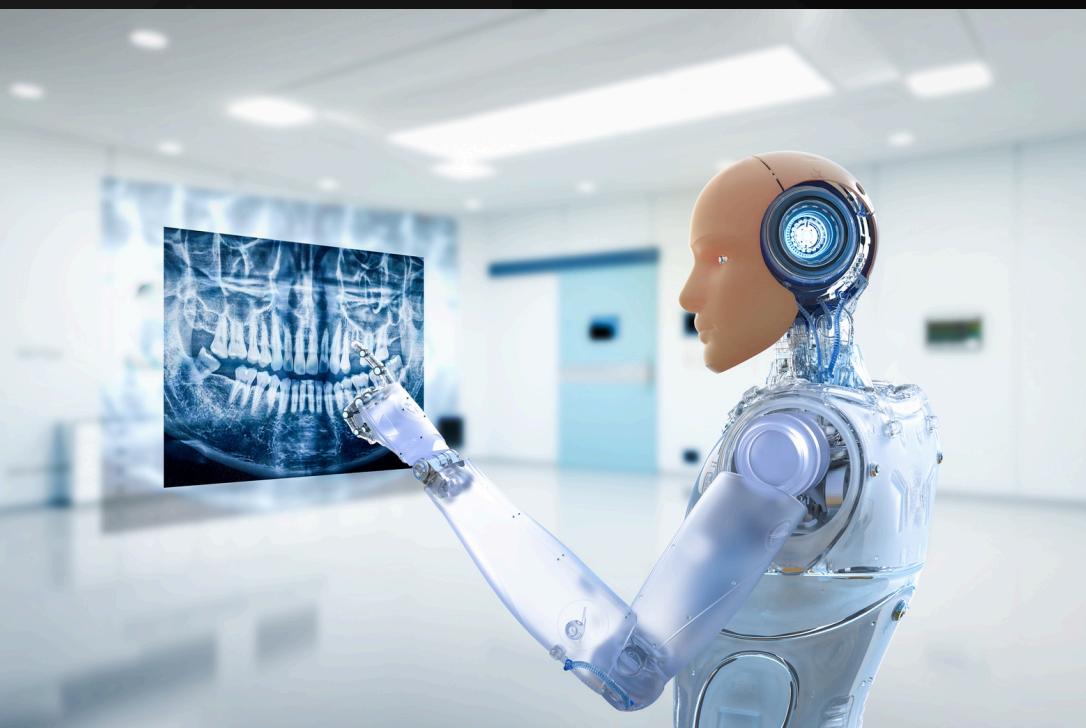
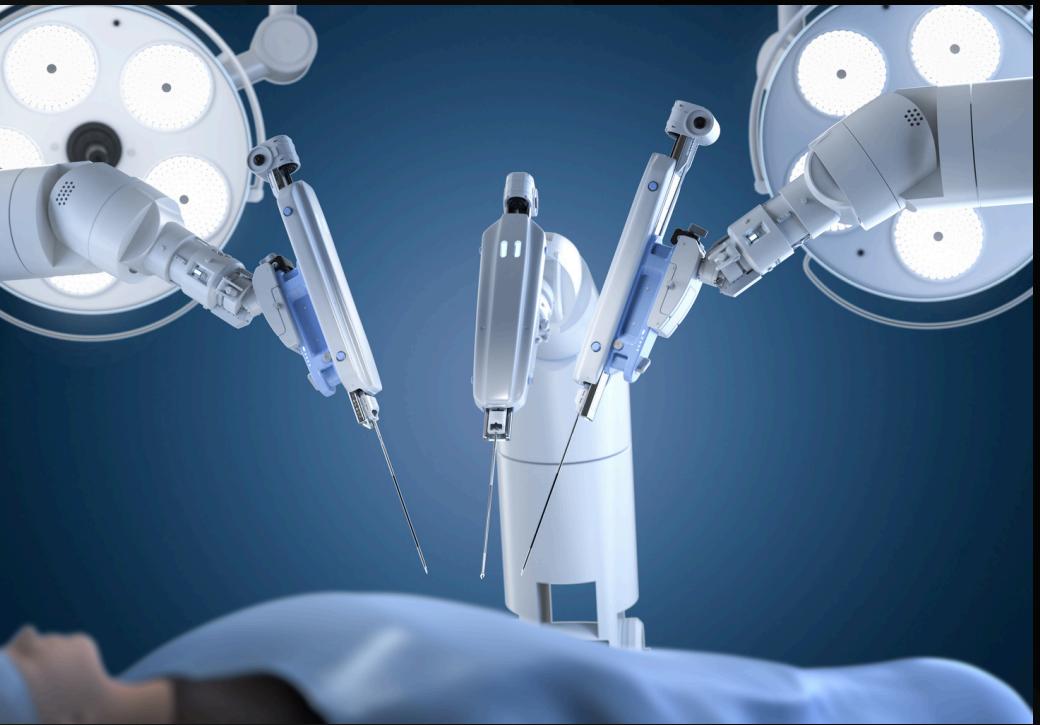
- 01 Objective:** Develop an AI/ML-enhanced healthcare diagnostics and management system to improve medical diagnostics, patient management, and treatment planning.
- 02 Background:** The project builds on the ZK Medical platform, aiming to integrate AI/ML for more accurate diagnostics, personalized treatment plans, and efficient patient management.
- 03 Challenge:** Enhance the system with AI/ML-driven diagnostics, predictive analytics, personalized treatment, real-time monitoring, and a comprehensive patient management dashboard.



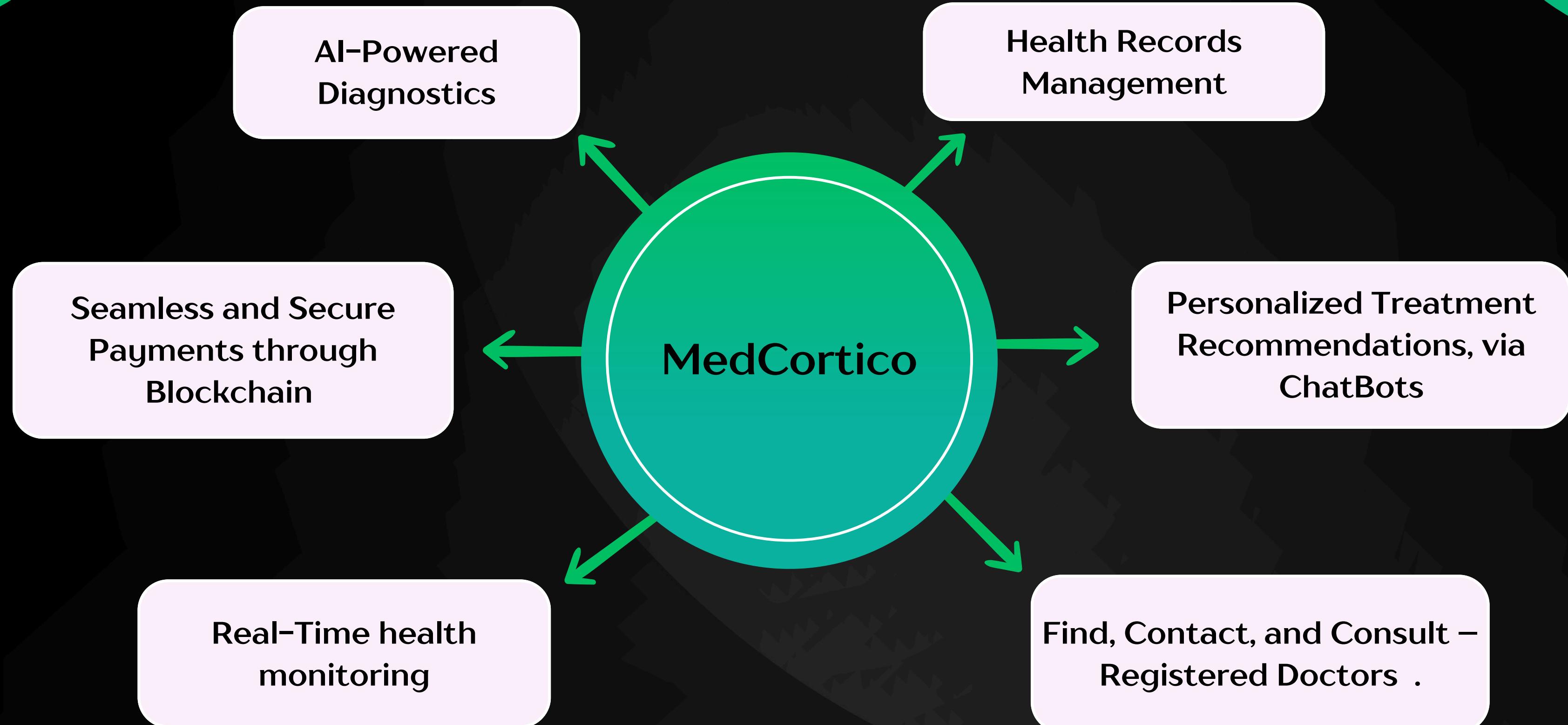
Our Solution

MedCortico : “ Predict, Prevent, Prosper – The Future of Healthcare

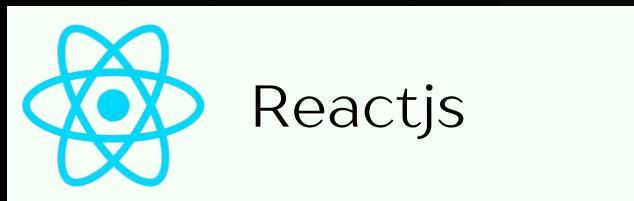
- MedCortico enhances healthcare experiences by integrating AI-driven chatbot services for personalized patient counseling. This allows users to receive tailored advice and support based on their unique health profiles.
- MedCortico employs machine learning-based classification mechanisms to make precise disease predictions, ensuring timely and accurate diagnoses. We tested and ensembled models like SVM, Random Forest, Logistic Regression, KNN, Gradient Boosting, and Neural Networks to maximize accuracy and capture complex patterns in medical data.
- This integration of AI and machine learning with an interactive user experience enhances healthcare precision while making patient engagement more personalized and effective.



Key Features



Tech Stack



Reactjs



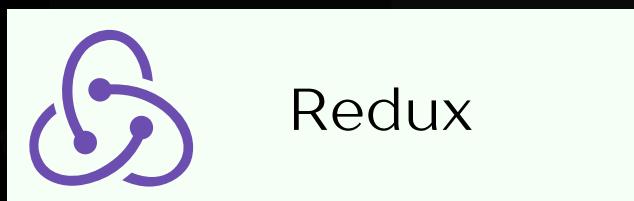
Flask



MongoDb



Gemini



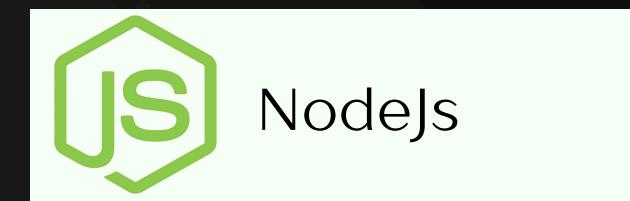
Redux



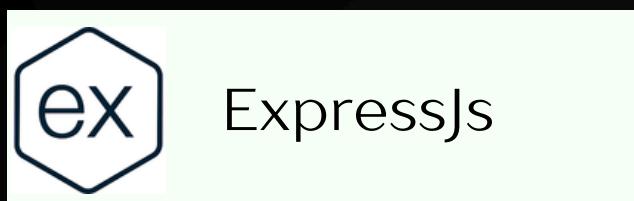
Shadcn



Tailwind CSS



NodeJs



ExpressJs



Tensorflow



NextJs



Python



Keras



Vite



MetaMask



Scikit-Learn

Scalability

Future scope and scalability of MedCortico

Create robust APIs to allow seamless integration with third-party health apps, electronic health records (EHR), and wearable devices

API Integration

Develop an automated ML pipeline for continuous model training and updates as more data becomes available, ensuring the system evolves with emerging medical knowledge.

Machine Learning Pipeline

Utilize cloud services for scalable computing and storage, ensuring the platform can handle growing patient data and complex analyses.

Cloud-Based Infrastructure

Incorporate multi-language support and region-specific medical guidelines to scale the platform for global use

Globalization

User Flow

01

Quick and
Secure
Login

02

Share Your
Queries with
Our Chatbot

03

Upload Medical
History and
Reports

04

Receive an
Instant AI
Diagnosis

05

Access Tailored
health
recommendati
ons

06

Find trusted
local doctors

07

Seamlessly
Book your
appointment

Business Model



Value Proposition

MedCortico delivers AI-driven healthcare solutions, enhancing diagnostics and patient care with personalized recommendations and accurate disease predictions.



Revenue Stream

Revenue is generated through subscription-based models for healthcare providers, licensing AI/ML models, and offering premium features like real-time monitoring.



Customer Segmentation

Target customers include hospitals, clinics, telemedicine platforms, individual practitioners, fitness centers, and insurance companies.



Partnership Channels

Partnerships with healthcare institutions, pharmaceutical companies, and insurance firms drive integration, innovation, and adoption of MedCortico's platform.

Future Scope

Advanced AI Integration

:Future versions of MedCortico could leverage advanced deep learning models such as CNNs and Transformers to enhance the accuracy and efficiency of medical image analysis and natural language processing. Implementing AI models capable of predicting patient outcomes and potential health risks based on historical data, thereby enabling proactive healthcare measures.

Personalized Medicine

Integrating genomic data analysis into MedCortico can allow for personalized treatment plans based on an individual's genetic profile, improving the effectiveness of healthcare interventions. Incorporating behavioral data to provide more holistic and personalized healthcare recommendations.

Global Expansion

Expanding MedCortico's capabilities to support multiple languages and region-specific medical protocols, making the platform accessible to a global audience. Including telemedicine features to allow direct consultation with healthcare professionals, enhancing the platform's utility, especially in remote areas.

Continuous Learning and Adaptation

Implementing continuous learning mechanisms where the AI models can be updated with new data, ensuring that MedCortico remains accurate and relevant with evolving medical knowledge. Establishing a feedback system where patient outcomes are fed back into the system to refine and improve predictive algorithms and recommendations over time.

Summary

AI-Enhanced Healthcare: MedCortico combines AI-driven chatbots and machine learning to improve diagnostics and personalized patient care.

Accurate Disease Predictions: By ensembling models like SVM, Random Forest, and Neural Networks, the platform delivers precise and timely disease diagnoses.

Personalized Treatment & Monitoring: Offers tailored treatment recommendations and real-time health monitoring to ensure proactive care.

Business Model: Targets healthcare providers, generating revenue through subscriptions and partnerships with medical institutions.