

HealthAI - Intelligent Healthcare Assistant Using IBM Granite

Project Report

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Abstract

This project explores the development of HealthAI, an intelligent healthcare assistant powered by IBM Granite foundation models. It aims to provide accessible, AI-driven medical assistance to users.

Introduction

With the rise of AI in healthcare, this project leverages IBM Granite to build a robust and intelligent assistant capable of understanding medical queries and offering support.

Objectives

- Develop a healthcare chatbot using IBM Granite
- Provide symptom checking, appointment scheduling, and medical insights
- Enhance accessibility to basic healthcare services

Technology Stack

- Frontend: React/HTML/CSS
- Backend: Python/Flask
- AI/ML: IBM Granite foundation models
- Database: MongoDB or Firebase

System Architecture

The architecture involves a frontend UI interacting with a Flask backend, which connects to IBM

Granite for AI processing and to a cloud database for data storage.

Features

- Symptom Checker
- Natural Language Understanding
- Patient Record Management
- Voice Assistant Integration
- IBM Granite-Powered Responses

User Workflow

1. User enters query via chat or voice
2. Backend processes the input using IBM Granite
3. Appropriate response or action is triggered
4. Results are displayed back to the user

Conclusion

HealthAI presents a scalable solution for preliminary healthcare guidance. Future enhancements may include real-time diagnostics, multilingual support, and deeper EHR integrations.

References

1. IBM Granite Documentation
2. IBM Developer Resources
3. Healthcare AI Journals (2023-2025)