NeuroGuard: AI-Powered Epilepsy & Seizure Prediction Chatbot

Our Team

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Table of Content

Understanding Epilepsy

Neurological Disorder

Disrupts normal brain activity, causing seizures.

Unpredictable & Recurrent

Can occur at any time, affecting daily life and safety.

Global Impact

Affects 50+ million people worldwide.

Seizure Variability

Mild muscle twitches to full-body convulsions and loss of consciousness.

Problem Statement

Unpredictable Seizures

Patients have no warning.

Limited Accessibility

Many individuals lack immediate access to neurologists.

Lack of AI-Driven Solutions

Current tools only track past seizures but fail to predict future episodes.

NeuroGuard: Our Solution

AI-Powered Chatbot

Predicts seizures and provides medical recommendations.

Real-Time Assistance

Offers immediate support and guidance.

Current Challenges

Unpredictability

Seizures occur randomly, increasing risk of injury.

Delayed Assistance

Patients often lack real-time medical guidance.

Lack of AI-Driven Warnings

Existing solutions focus on tracking past seizures.

Technical Workflow

1

User Input

User enters symptoms.

2

Query Processing

NLP tokenization extracts keywords.

3

AI Model Selection

PubMedBERT for medical insights, LLaMA 2 for general responses.

4

Seizure Risk Assessment

Identifies seizure type and severity.

5

AI-Generated Advice

Provides personalized recommendations.

6

Continuous Learning

New interactions improve predictions over time.

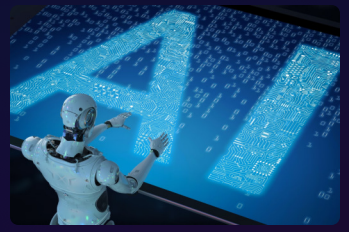
Key Features

1

Real-Time Prediction

Uses AI and medical case studies to detect risk instantly.

2



Medical-Grade Accuracy

PubMedBERT and FAISS provide trusted insights.

3

Multi-Model AI System

Combines PubMedBERT, LLaMA 2, Mistral 7B for precision and natural conversation.

4

Smart Recommendations

Offers preventive care advice and neurologist suggestions.

5

Continuous Learning

Improves over time with new patient interactions.

6

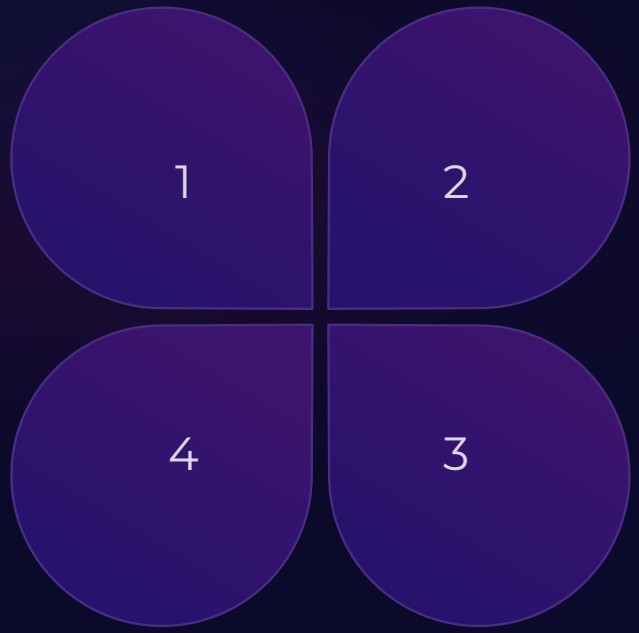
Scalable & Fast

Runs on Hugging Face and Google Colab for global accessibility.

Technology Stack

AI Models

PubMedBERT, LLaMA 2, Mistral 7B.



Database

FAISS (Fast retrieval of similar cases).

Deployment

Hugging Face, Google Colab.

Backend

Python, FastAPI.