

PROBLEM STATEMENT

PS-16 RUNNING GENAI ON INTEL AI LAPTOPS
AND SIMPLE LLM INFERENCE ON CPU AND FINE-
TUNING OF LLM MODELS USING INTEL®
OPENVINO™

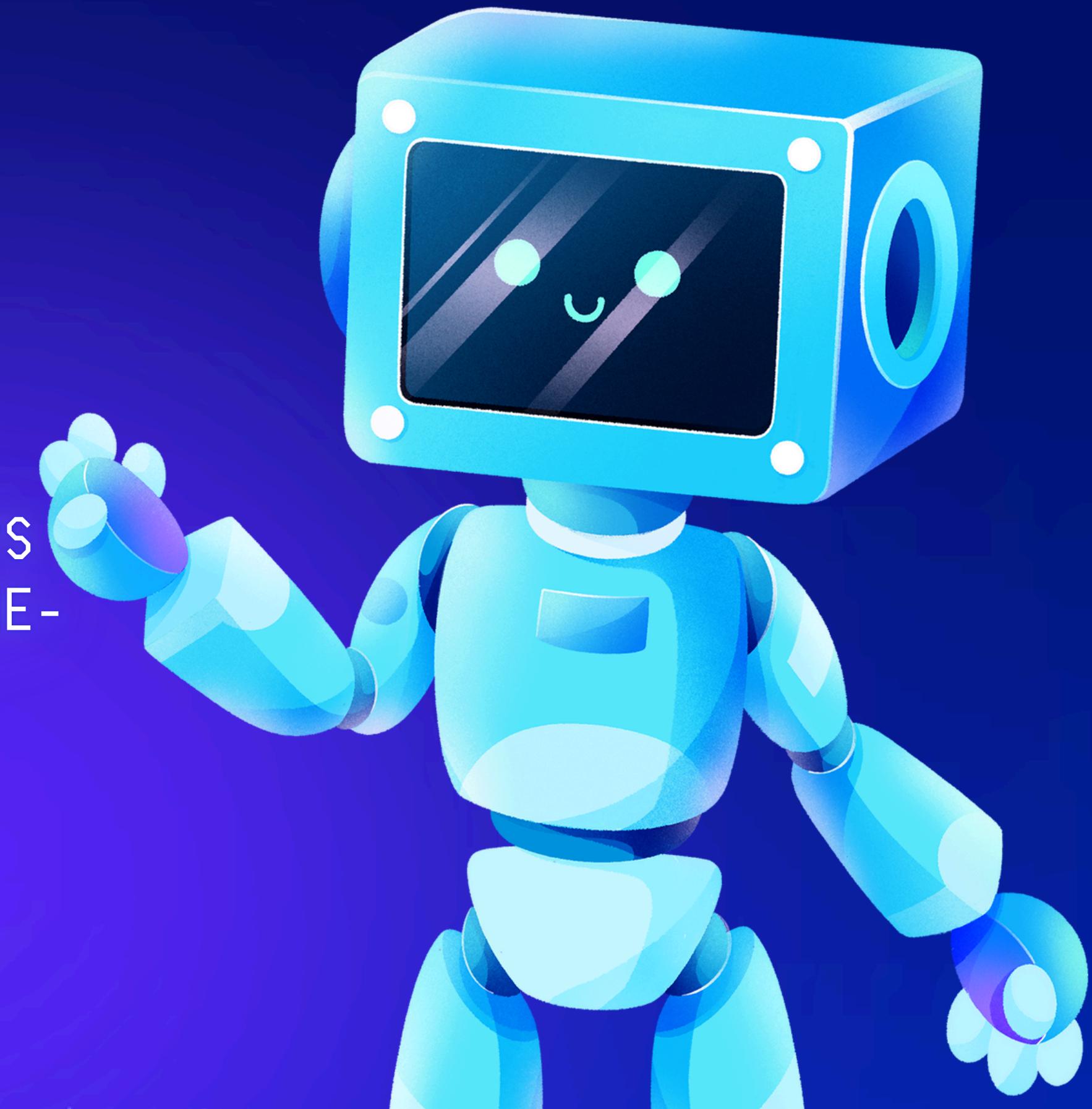




TABLE OF CONTENTS

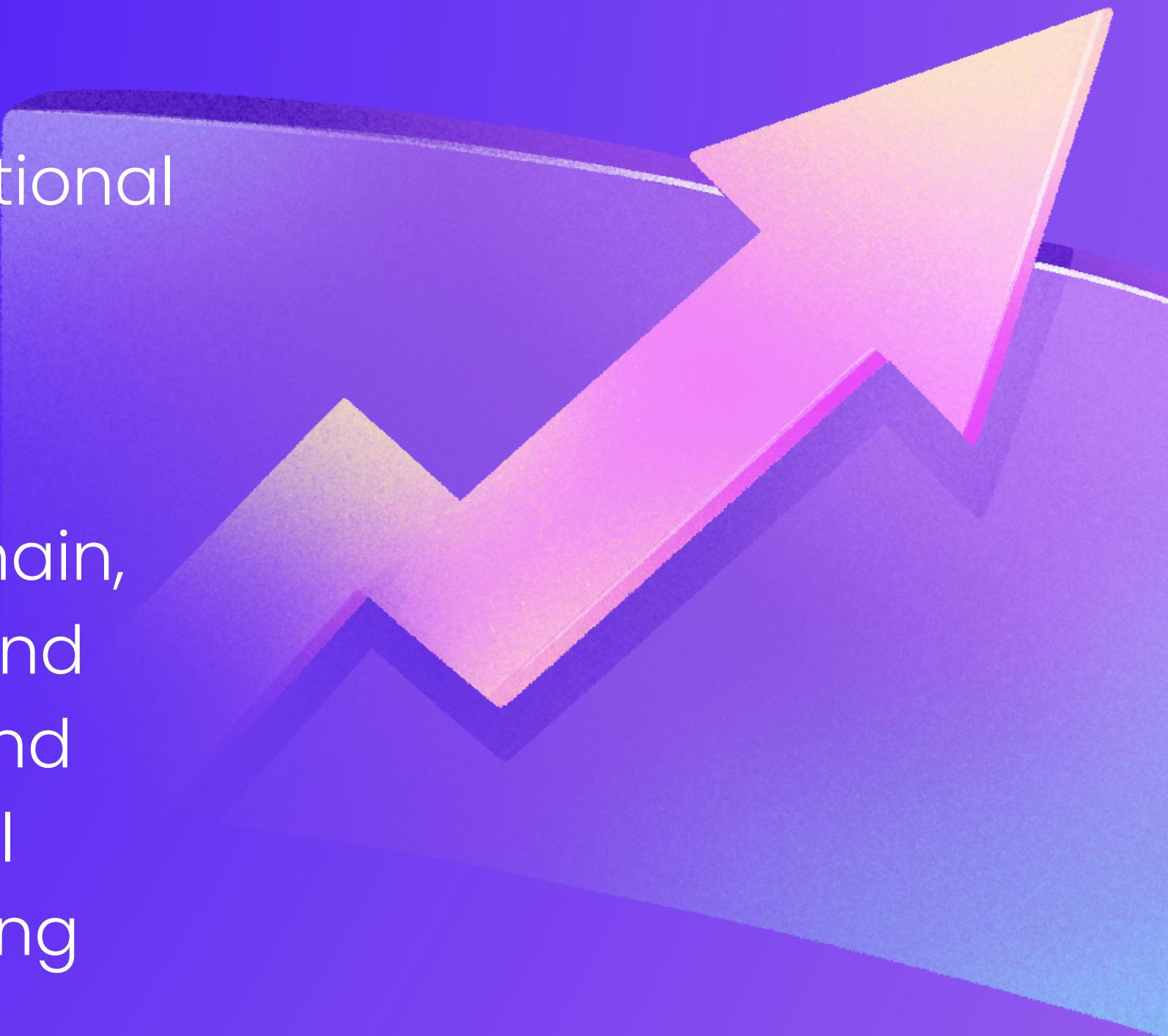
• Unique Idea	03
• Features Offered	04
• Process flow	05
• Architecture Diagram	06
• Technologies used	07
• Result	09
• Conclusion	10



UNIQUE IDEA

Title: MedChat - AI-Powered Medical Conversational Assistant

Description: MedChat is an innovative medical conversational assistant that leverages LangChain, Pinecone, and OpenVINO to provide accurate and personalized medical information to patients and healthcare professionals. MedChat uses natural language processing (NLP) and machine learning (ML) to understand user queries and retrieve relevant information from a vast medical knowledge base.



FEATURES OFFERED

Medical Knowledge Base



MedChat's knowledge base is built by ingesting and processing large volumes of medical literature, research papers, and clinical trials.

Conversational Interface

MedChat features a user-friendly conversational interface that allows users to ask medical questions in natural language

Real-time Updates

MedChat's knowledge base is updated in real-time, ensuring that users have access to the latest medical information and research findings.

Integration with EHR Systems:

MedChat can be integrated with electronic health record (EHR) systems, allowing healthcare professionals to access patient medical history and provide more accurate diagnoses and treatment plans.

PROCESS FLOW



User Query:

A user asks a medical question through MedChat's conversational interface.

NLP Processing:

LangChain's NLP capabilities process the user query to extract relevant information and identify the user's intent.

Knowledge Retrieval:

Pinecone's vector database retrieves relevant medical information from MedChat's knowledge base.

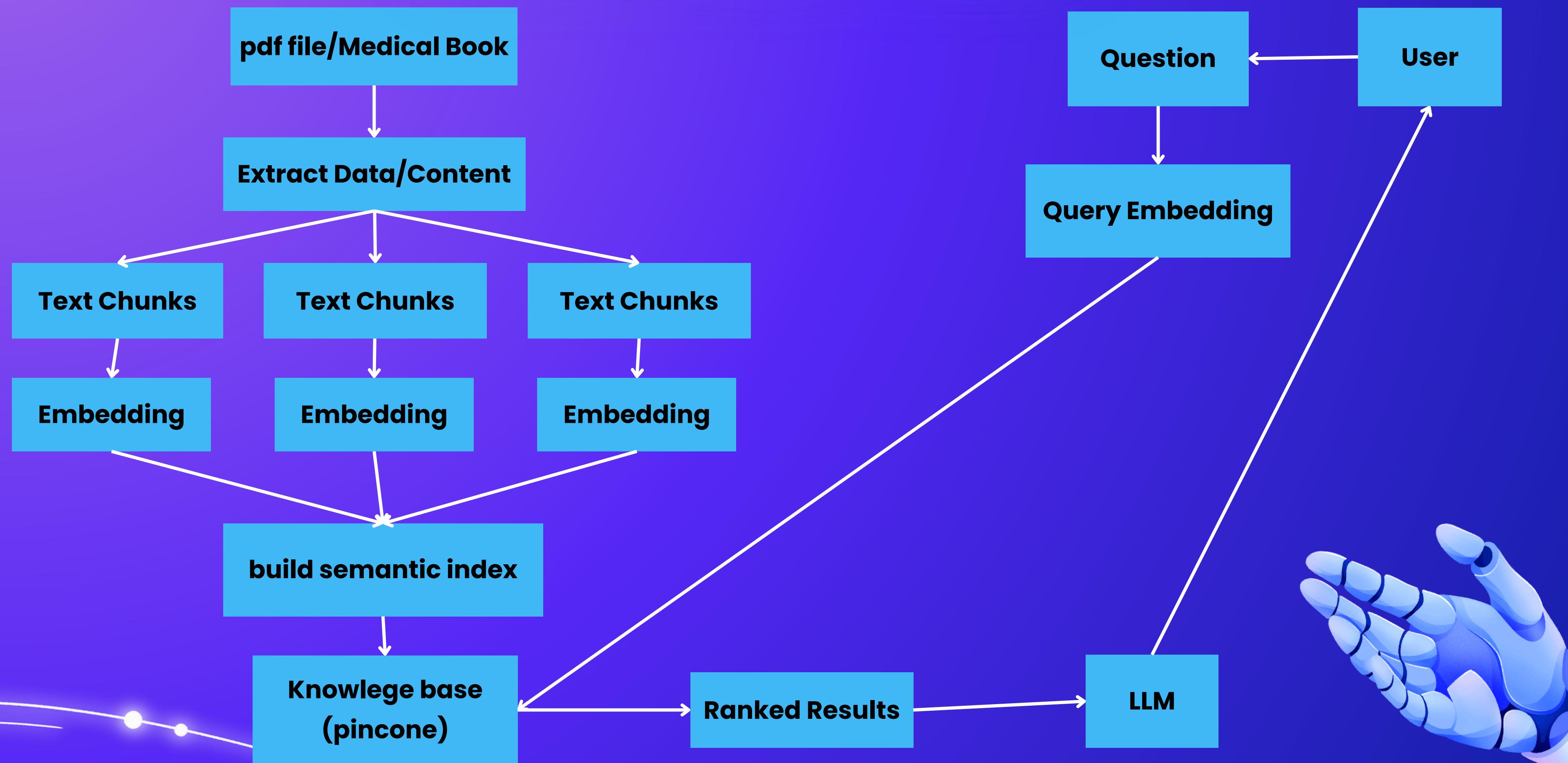
Personalized Recommendations:

OpenVINO's machine learning algorithms analyze the user query and provide personalized medical recommendations.

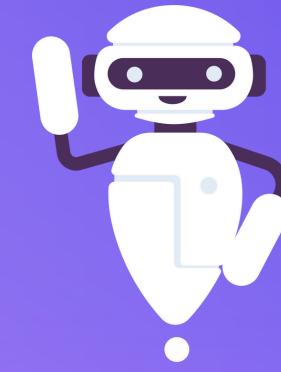
Real-time Updates:

MedChat's knowledge base is updated in real-time to ensure that users have access to the latest medical information and research findings.

ARCHITECTURE DIAGRAM



TECHNOLOGIES USED



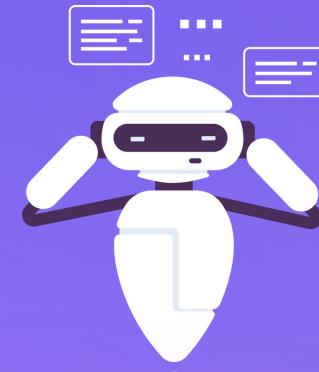
LANGCHAIN:

LangChain's NLP capabilities are used to process and analyze user queries.



PINECONE:

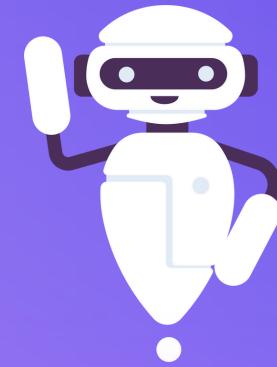
Pinecone's vector database is used to store and retrieve medical information efficiently.



OPENVINO:

OpenVINO's machine learning algorithms are used to provide personalized medical recommendations.

TECHNOLOGIES USED



PYTHON:

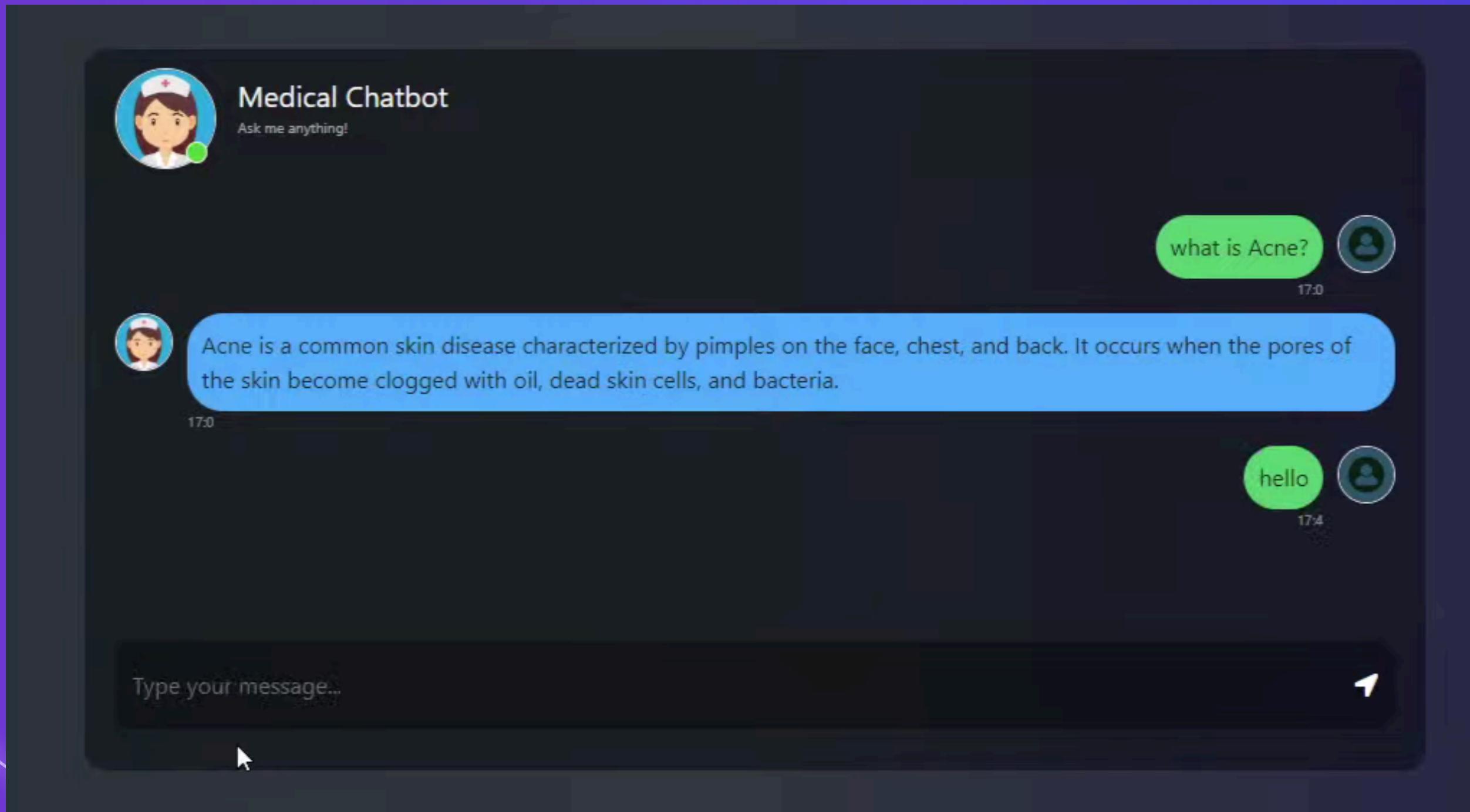
Python is used as the primary programming language for developing MedChat.



FRONTEND FRAMEWORK:

A frontend framework such as React or Angular is used to develop MedChat's conversational interface.

RESULTS



This is the interface of MedChat.

CONCLUSION

MEDCHAT IS AN INNOVATIVE MEDICAL CONVERSATIONAL ASSISTANT THAT LEVERAGES LANGCHAIN, PINECONE, AND OPENVINO TO PROVIDE ACCURATE AND PERSONALIZED MEDICAL INFORMATION TO PATIENTS AND HEALTHCARE PROFESSIONALS. WITH ITS CONVERSATIONAL INTERFACE, PERSONALIZED RECOMMENDATIONS, AND REAL-TIME UPDATES, MEDCHAT HAS THE POTENTIAL TO REVOLUTIONIZE THE WAY MEDICAL INFORMATION IS ACCESSED AND USED. BY PROVIDING ACCURATE AND TIMELY MEDICAL INFORMATION, MEDCHAT CAN IMPROVE PATIENT OUTCOMES, ENHANCE HEALTHCARE EFFICIENCY, AND INCREASE ACCESSIBILITY TO MEDICAL KNOWLEDGE.



THANK YOU!

