



SMART SOLUTIONS: “INTELLIDOC.AI” GENERATIVE AI IN HEALTHCARE

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CUSTOMER BACKGROUND:

Lagozon Technologies is a leading tech. service provider, focusing on Data Analytics & Data Engineering solutions. They have key partnerships with industry giants such as Qlik, Microsoft, AWS, Snowflake, and Databricks. Serving clients in Healthcare, Retail, FMCG, Manufacturing, Logistics, and BFSI sectors, Lagozon operates across India, Singapore, UAE, Canada, and the United States.

PROBLEM STATEMENT:

In the past, healthcare providers encountered significant challenges when relying on traditional methods for searching through electronic health records (EHR). These methods were characterized by sluggishness and inefficiency, exacerbated by the sheer volume of data contained within the system and its inherent complexity. As a consequence, healthcare professionals faced delays in accessing critical information, which impeded their ability to make timely and informed decisions, ultimately impacting the quality of care delivered to patients.

SOLUTION AND PROCESS IMPLEMENTED:

The solution leverages on Generative AI models for creative content generation like Text, Images, Music & Videos, Audio etc. These models are pre-trained on massive amounts of data from different sources which helps to generate entirely new data.

To be able to harness this power of Generative AI, many different techniques and frameworks are combined together, the choice of which depends on the project nature and complexity.

The given solution is an interactive data retrieval system which would allow healthcare providers to access and analyze different medical documents present in different formats like PDF, MS Word or other scanned documents. These documents may be huge to read or search for required data or may be multiple at times to do any analysis together which goes beyond manual human capabilities.

AT A GLANCE

Client

Lagozon Intellectual Property

Region

India

Target Industry

Healthcare

Function

Healthcare Solutions

Technology Stack

Azure Open AI Services

- It comprises state of the art RAG (Retrieval, Augmentation, Generation) framework which harness the Generative AI models for generation of different data like analysis, summarization, semantic searching, suggestions, pattern generation from these huge documents and optimizes the daily operation of healthcare staff to assist patients.

TECHNIQUES AND TECHNOLOGIES USED:

Dynamic
Prompt
Engineering

Vector
databases
(ChromaDB,
Pinecone etc.)

Large Language
Models (Azure,
OpenAI,
Hugging Face)

Frameworks
(LangChain,
LlamaIndex)

Data Platform
(Snowflake, SQL
Server,
PostgreSQL)

Analysis and Summary generation:

The implementation of interactive system enables analysis and summarization based on the documents provided. simplified the time-consuming task of manually navigating through extensive medical records. This shift allowed healthcare professionals to allocate their time more effectively towards direct patientcare. Consequently, workflow efficiency improved, administrative burdens lessened, and resources within healthcare facilities were optimized for better productivity.

Automated Data Retrieval:

Integrating Generative AI Solutions for automated data retrieval transformed our sales team's operations. By developing and deploying advanced machine learning algorithms, we eliminated the need for manually crafting technical queries. This solution streamlined access to crucial information by automatically extracting and processing data from our database. With Generative AI Solutions, sales team members could fully leverage data, gaining deeper insights into customer behaviour and preferences through real- time analytics and predictive modeling.

Patient Empowerment with AI:

Through the incorporation of Generative AI, healthcare providers were able to generate clear and concise summaries of medical reports, offering patients accessible insights into their health status. This transparency promoted active patient involvement and informed decision-making, leading to enhanced health outcomes and increased satisfaction with the healthcare experience.

BENEFITS:

Improved Workflow Efficiency:

Automated summarization streamlined the process of handling extensive medical records, allowing healthcare professionals to focus more on patient care rather than administrative tasks. This increased efficiency not only saved time but also ensured that critical patient information was quickly accessible. Consequently, healthcare providers could respond more promptly to patient needs and emergencies.

Reduced Administrative Burden:

The automation of summarizing medical records lessened the administrative workload, thereby reducing the time and effort required for manual record navigation. By alleviating the tedious aspects of data management, healthcare staff experienced less burnout and stress. This improvement in their working conditions translated into higher job satisfaction and better overall performance.

Optimized Resource Utilization:

By minimizing the time spent on administrative duties, healthcare facilities were able to better allocate their resources, leading to enhanced productivity and operational efficiency. Staff could be reallocated to more critical tasks, ensuring that patient care was prioritized. This optimization also enabled facilities to handle higher patient volumes without compromising the quality of care.

Enhanced Patient Empowerment and Satisfaction:

The use of Generative AI to produce clear and concise medical summaries provided patients with easy-to-understand information about their health, fostering greater patient engagement, informed decision-making, and overall satisfaction with their healthcare experience. Patients felt more in control of their health, leading to increased trust in their healthcare providers. This transparency helped build a stronger patient-provider relationship, contributing to better adherence to medical advice and treatment plans.

