

AI-Powered Transformations

Our Success Stories for Pharma
and Healthcare

brillio





Accelerating Business Efficiency with an AI-Powered Q&A Bot for a Biopharma Leader

About

A leading global biopharmaceutical company focused on discovering, producing, and delivering innovative medicines that help patients with serious diseases sought to empower its regulatory business team by developing an interactive Q&A bot capable of answering specific business questions using enterprise data stored in various formats, including documents, tabular datasets, and image files.

Challenges

The client faced several key challenges, particularly in integrating an AI-driven bot across a multi-cloud environment while maintaining control over hallucinations and ensuring the accuracy of responses. Additionally, the solution needed to handle large files, ensuring the retention of document formats and accurate content retrieval during the machine translation process. Another significant challenge was ensuring user adoption by providing high-confidence responses that fostered trust in the system's accuracy.

Solution

Brillio addressed these challenges by implementing a conversational bot powered by Large Language Models (LLMs) that intelligently interpreted user queries and identified the correct document structures to search for relevant answers. The bot was designed to process data from various sources, including text documents, images, and tables, and provide natural language responses. Each response was accompanied by information credits and a confidence score to boost user confidence and ease adoption. This comprehensive solution effectively tackled the key challenges of controlling hallucinations in LLM responses and ensuring contextually accurate answers.

Impact

The solution significantly reduced the time required to locate critical business information, enabling the team to access necessary data within moments rather than spending hours searching multiple sources. Additionally, the bot's ability to provide instant, accurate responses improved decision-making processes across the regulatory team. The high translation accuracy ensured that data extracted from various formats, including complex tables and images, was precise and easy to understand, fostering a more efficient work environment and reducing human error.

- **Significant** time reduction
- **Instant** information access
- **High** translation accuracy

Revolutionizing Healthcare Data: Boosting Efficiency and Security with GenAI Solutions

About

A leading global healthcare company with a century-long history specializing in innovative treatments for chronic diseases partnered with Brillio to transform key functions such as Sales Planning, Patient and HCP Engagement, and Field Force Effectiveness. This initiative aimed to provide field teams with essential insights into Call, Incentive, Territory Planning, Marketing, and Patient Services.

Challenges

The client encountered several challenges, starting with inefficient data management processes, which led to reduced data trust and lower adoption of insights by the teams. Implementing a self-service model for insights through a robust data model and business intelligence solutions was crucial. Another significant challenge was ensuring the rapid resolution of critical incidents to maintain uninterrupted service. The client also required a robust data security framework to protect sensitive information across various platforms and geographies. Finally, the project needed to balance adequate support with a lean team structure and globally distributed resources, adding complexity to the delivery.

Solution

Brillio addressed these challenges by developing key business-facing solutions, including Patient Support program applications and rare disease-specific tools. The existing ETL architecture was modernized and transitioned to a cloud-based solution to enhance scalability and performance. GenAI solutions were leveraged to address data management and quality use cases, providing innovative approaches to resolve these challenges.

Brillio also improved visibility into project governance and data management across the entire data value chain. The BI ecosystem, which included Qlik and Tableau reports and dashboards, was enhanced for greater efficiency. To ensure consistent service delivery, SLA-driven support, ongoing enhancement, and automation were implemented during the steady-state phase. Automation further streamlined routine tasks such as data validation and processing, significantly improving operational efficiency.

Impact

The implementation resulted in streamlined Data Operations bringing process efficiency and higher trust on data & insights. The business and field team were able to get faster insights through self-service BI dashboards and LLM applications. Support and incident resolution processes were streamlined, reducing downtime and improving service delivery. High availability of data platforms was achieved, with minimal downtime globally, ensuring uninterrupted access to critical data and insights.

- **Strengthened** data security and compliance
- **Streamlined** support and incident resolution processes
- **High** data platform availability & minimal downtime

Simplifying LLM Deployment: Unlocking AI Innovation with a Gen AI Gateway

About

A global healthcare company specializing in the development, manufacturing, and distribution of medical products, operating in over 160 countries, partnered with Brillio to develop a self-service Gen AI platform to function as a comprehensive marketplace, streamlining the process of building, testing, and deploying Generative AI applications.

Challenges

The client faced several challenges, including the lack of a standardized approach to building LLM-based (Large Language Model) AI models, leading to extended development and production timelines. Additionally, there was no LLMOps framework to democratize AI use cases and provide governance. The absence of proper governance mechanisms created data privacy concerns and slowed experimentation. Project visibility was also limited on key performance metrics such as cost, usage, and infrastructure consumption.

Solution

Brillio addressed these challenges by building a cloud-agnostic, self-service Gen AI platform based on microservices. This platform allowed users to access various Gen AI services, offering flexibility and ease of use. Common use cases were developed, including LLMs, Retrieval-Augmented Generation (RAG), Prompt Libraries, Translation, Speech-to-Text, and Text-to-Code functionalities. The platform enabled users to leverage these services while integrating them into their applications. Additionally, it ensured trust, risk management, and security, democratizing LLM applications and providing clear governance and cost-tracking to accelerate AI adoption.

Impact

The Gen AI Gateway implementation significantly improved self-service capabilities, reducing dependency on central teams. It enhanced the effectiveness of LLM use cases across the organization by providing a streamlined, centralized platform for AI development. The solution also increased visibility and efficiency, enabling more informed decision-making while ensuring proper governance and cost control.

- AI **Improved** self-service with reduced dependency
- AI **Enhanced** effectiveness of LLM use case
- AI **Centralized**, streamlined platform for LLM development



AI-Powered Automation: Driving 30% Efficiency Gains for a Global Pharma Giant

About

A leading American multinational Fortune 500 company, recognized for its leadership in biological and pharmaceutical research, partnered with Brillio to optimize its data management and investigative processes. The company focuses on discovering, developing, and delivering innovative medicines that help patients overcome serious diseases.

Challenges

The client faced challenges in managing large volumes of data, which complicated deviation analysis. Manual processes for extracting and categorizing deviation information were time-consuming, error-prone, and inefficient. The investigations team needed automated tools to extract and analyze insights more effectively, reducing reliance on manual processes. The absence of an efficient system for organizing data and the need for faster issue resolution impacted productivity.

Solution

Leveraging Vault, Amazon Redshift, and AWS Glue ETL, Brillio developed an advanced, LLM-powered solution to streamline the deviation investigation process. The architecture began with collecting relevant deviation reports, followed by text preprocessing through tokenization and cleaning. Key issues were extracted using KeyBERT, and Sentence-BERT was used to generate sentence embeddings for further analysis. Cosine similarity was then applied to link-related deviation reports, uncovering patterns. The solution also featured rule-based extraction and categorization of tags for efficient filtering, providing the investigations team with actionable insights and a centralized, interactive dashboard.

Impact

The LLM-powered Deviation Investigation Insights solution led to significant operational improvements. Keyword extraction accuracy improved by 90%, allowing for precise identification of critical issues. Deviation resolution time was reduced by approximately 30%, enabling faster issue resolution and minimizing downtime. Similarity detection improved by 80%, facilitating the linking of related deviations. Operational efficiency increased by 25-30%, allowing the team to focus on decision-making and problem-solving while reducing reliance on manual processes.

- **90%** improvement in keyword extraction accuracy
- **~30%** reduction in deviation resolution time
- **80%** enhancement in similarity detection
- **25-30%** increase in operational efficiency



From Hours to Seconds: Transforming Document Translation with AI for a Fortune 500 Pharma Leader

About

A leading global biopharmaceutical Fortune 500 corporation, committed to advancing scientific breakthroughs and improving patient outcomes worldwide, partnered with Brillio to enhance its document translation processes.

Challenges

The company's R&D department faced significant challenges in extracting required content from clinical documents written in multiple languages, including Chinese and French. The manual translation process was time-consuming and resource-intensive. Additionally, preserving document structure during translation and ensuring key medical entities were retained was critical. Handling large volumes of files also posed a logistical challenge, requiring a scalable solution.

Solution

Brillio developed a Machine Translation Engine using Azure AI Translator Service to meet the client's needs for accurate and efficient translation of clinical documents. The solution preserved document structure by using the Document Translator feature, ensuring the original format was maintained during translation. Text analytics were integrated to extract medical entities and relationships from the translated documents, with insights stored in a knowledge repository connected to a search engine for easy retrieval. The platform also supported multilingual document searches.

Impact

The Machine Translation Engine successfully translated over 200 clinical documents. The time required for content searches was reduced by approximately 95%, significantly accelerating the retrieval of essential information. The solution achieved a translation accuracy rate of 90-95%, providing reliable and accurate content for research and analysis.

- **200+** documents translated
- **~95%** reduction in content search time
- **90-95%** translation accuracy achieved



ABOUT BRILLIO

Brillio is one of the fastest growing digital technology service providers and the partner of choice for many Fortune 1000 companies seeking to turn disruption into a competitive advantage through innovative digital adoption. We help clients harness the transformative potential of the four superpowers of technology: cloud computing, Internet of Things (IoT), artificial intelligence (AI) and mobility. Born digital in 2014, we apply our expertise in customer experience solutions, data analytics and AI, digital infrastructure and security, and platform and product engineering to help clients quickly innovate for growth, create digital products, build service platforms, and drive smarter, data-driven performance. With 17 locations across the U.S., the UK, Romania, Canada, Mexico, and India, our growing global workforce of nearly 6,000 Brillians blends the latest technology and design thinking with digital fluency to solve complex business problems and drive competitive differentiation for our clients. Brillio has been certified by Great Place to Work since 2021.



<https://www.brillio.com/>

Contact Us: info@brillio.com