AI-BASED ANALYTICS UNLOCKS DATA-DRIVEN INSIGHTS FOR BOEHRINGER INGELHEIM

The pharmaceutical company partners with Capgemini Invent to develop and implement a custom AI and machine learning-based analytics platform to process previously underutilized data

Data is at the heart of effective business practices and customer support. Companies that utilize it deliver better services that are tailored to their audience and thus achieve more success than their competitors. In the pharmaceutical industry, data analysis can change the lives of patients and customers who rely on critical medication and the organizations that produce or provide it.

As a leading pharmaceutical company, Boehringer Ingelheim possesses a large amount of data that has the potential to generate powerful insights. However, in the past much of this untapped value was buried in unstructured text sources such as clinical trial results, social media, and competitor reports. To properly utilize this potential wellspring of information and make more data-driven decisions, the company decided to develop a solution based on Natural Language Processing (NLP), a subfield of artificial intelligence (AI) and machine learning.

Overview

Client: Boehringer Ingelheim

Region: Germany

Industry: Life sciences

Client challenge:
Boehringer Ingelheim had a tremendous amount of data and was looking for a democratized analytics platform that could utilize Natural Language Processing (NLP) algorithms to provide new insights and new topics from unstructured text

Solution:
Partnering with Capgemini Invent, the pharmaceutical company developed a custom, NLP-driven analytics platform and used it to train its employees and enable them to provide data-related services throughout the organization

Benefits:
- 40% reduction in response time for complex medical inquiries
- €1.5 million in predicted financial benefits per year
- Company-wide access to new insights and previously unknown topics drawn from unstructured text sources such as clinical trial results, social media, and competitor reports

In addition, Boehringer Ingelheim made the choice to select a partner who could provide the expertise required to envision, plan, and implement such a project. Based on the positive results of previous collaborations as well as its history of other successful data-driven solutions, Capgemini Invent was a natural fit for this role.

Building a customized solution

Boehringer Ingelheim and Capgemini Invent launched the project in 2020 with a series of design-thinking workshops focused on establishing a vision for the partnership and exploring potential use cases. This ensured that key stakeholders from both companies shared a mutual understanding of the objectives, the potential business value, and the challenges they would likely face. The partners proceeded to form a team comprised of life sciences business consultants, data scientists, and software developers, whose combined expertise enabled the development of an NLP platform that would transform existing data into powerful knowledge using a scalable Machine Learning Operations approach.

The most promising use cases then underwent additional review, leading to a concrete business case that secured the necessary funding and resources based on the business value it would provide. Most notably, Boehringer Ingelheim and Capgemini Invent agreed that the analytics platform would be a fully customized solution rather than off-the-shelf technology. By doing so, the partners could match the platform to the requirements as much as possible and secure the company's intellectual property (IP).

With a plan in place, the partners began an agile development process that applied core principles like continuous design, integration, and testing. To do so, Boehringer Ingelheim and Capgemini Invent drew upon a diverse, full-stack team that operated in a Scaled Agile Framework.

This team developed a modularized and microservice-oriented NLP platform architecture that enabled the continuous integration and deployment of stakeholder-relevant services, an iterative approach that allowed the team to handle the project's complexity more effectively. NLP techniques and algorithms automated insight generation and expanded the analytical capabilities for end users while providing full transparency about the process and data sources that led to a given insight. Throughout this process, the partners maintained consistent stakeholder communication to ensure that ongoing feedback was incorporated iteratively and the final version of the solution fulfilled user and business requirements.

Maximizing the impact of data analytics

After the release and testing of a minimum viable product (MVP) in 2021 and a 2022 pilot phase that proved the solution's business value, Boehringer Ingelheim and Capgemini Invent rolled the platform out worldwide. More than 100 users with different roles across Boehringer Ingelheim's business received training that ensured the project made an impact quickly and avoided the investment of time and effort into more generic instructional material.

With the solution in place and users trained, the pharmaceutical company can now thoroughly analyze and obtain actionable insights from data that was previously difficult to access. Automation reduces the time needed for this analysis and improves the overall response time for complex medical inquiries by over 40%. Moreover, these services can be shared across the entire business so that all users and teams can obtain the same benefits and guidance. Boehringer Ingelheim and Capgemini Invent expect the platform to deliver €1.5 million in annual financial benefits.

This project and its successful conclusion have positioned Boehringer Ingelheim at the forefront of innovation within the industry. As the solution is scaled worldwide, the company will continue to improve the process by which it supports patients and clients across the globe.

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