# BCG GenAI Virtual Experience (Forage)

## Business Context

BCG’s client is a financial services firm seeking to extract key insights from its annual (10-K) and quarterly (10-Q) financial reports. The business challenge was to automate large-scale financial data extraction and interpretation, enabling faster and more accurate insights for management.  
  
Your role was that of a Junior Data Scientist in the GenAI Consulting Team, responsible for developing an AI-powered chatbot capable of understanding, analyzing, and interactively explaining financial documents.

## Task 1: Data Extraction and Initial Analysis

Business Problem:

The client had hundreds of 10-K and 10-Q reports that required time-consuming manual review. They needed an automated system capable of quickly extracting key metrics such as Revenue, Net Income, Liabilities, and Cash Flow, while identifying significant financial trends.

Goal: Automate financial data extraction and structure it for AI applications, reducing manual effort and improving analysis efficiency.

## Task 2: Developing an AI-powered Financial Chatbot

Business Problem:

Traditional reporting tools were static, forcing executives to rely on analysts for financial insights. The client required a Generative AI chatbot that could explain financial data in natural language and provide trend-based insights interactively.

Goal: Design an NLP-based chatbot that:  
- Understands financial metrics and KPIs,  
- Provides comparative performance insights (e.g., Q1 vs Q2),  
- Explains results in natural language (e.g., “Revenue grew 15% YoY due to higher product sales”).

## Final Deliverables

- Extracted and cleaned financial dataset from 10-K and 10-Q reports  
- Trained GenAI chatbot integrated with financial data  
- Test report evaluating chatbot performance and accuracy  
- Business insights summary prepared for client presentation

## Business Impact

- Automated financial analysis, reducing manual workload from hours to minutes  
- Enabled faster executive decision-making through AI-generated summaries  
- Enhanced client engagement with interactive and explainable financial insights