

CASE STUDY

MEDIA & ENTERTAINMENT INDUSTRY

Automating Data Engineering with AI Agents

Project: AI Alert Agent Pilot



KEY OUTCOME 1

Automated repetitive data engineering tasks



KEY OUTCOME 2

Validated AI integration with Google Cloud



KEY OUTCOME 3

Enabled natural language SQL alert creation

BACKGROUND

KJR was engaged to support a large entertainment customer in the early stages of their data warehouse migration from Informatica and Cognos to BigQuery and PowerBI.

To reduce engineering overhead and increase agility, the KJR team piloted using AI agents to automate common repetitive data engineering tasks. The focus was on a pilot that would use an AI agent to accelerate creating table monitoring alerts, a repetitive task that typically stalled in lengthy development sprint cycles.

KJR leveraged Google Cloud Platform and Vertex AI to demonstrate AI agents will integrate with the customers modern data platforms, be configured to understand business-specific metadata and perform tasks with minimal human input.

CHALLENGE

The customer was unsure which AI platform would best meet their requirements. Initial vendor proposals were generic, high-level and failed to provide a clear path forward. Budget sign-off was delayed and technical stakeholders were uncertain about AI's value.

KJR was engaged to validate real-world use cases by executing an alert creation AI agent pilot project. The aim was to demonstrate the practical feasibility of having an AI agent extract database metadata, create SQL, and configure a functioning data table alert.

SOLUTION

KJR selected Google Cloud's Vertex AI Agent Builder based on the ability to deploy the first agent within minutes. Using the Google ADK, KJR created an AI agent that retrieved metadata from BigQuery, generated SQL using natural language prompts and scheduled an alert autonomously. KJR taught the agent to understand business terminology by layering customer-specific metadata. This allowed non-technical business users to make requests using familiar business specific language.

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DELIVERABLES

KJR delivered a functioning AI agent pilot using Vertex AI on Google Cloud Platform to automate alert creation from a natural language prompt. A multi-agent configuration was established, with a central SQL orchestrator managing metadata retrieval and query execution.

KEY OUTCOMES

The alert creation pilot demonstrated that using Google ADK coupled with Vertex AI enables rapid development, and deployment of local intelligent agents. At the end of the pilot the developed AI agent autonomously extracted metadata, interpreted natural language requests, generated SQL code and scheduled table alerts.

Production recommendations included expanding the customer specific metadata, validating sub-agents to verify the alert is created correctly, SQL query cost guardrails, and evolving the solution into a self-service platform.

Overall, the AI agent alert creation pilot demonstrated a strong case for leveraging AI agents to automate repetitive tasks.

VALUE TO CLIENT

KJR de-risked the broader AI strategy and established a solid foundation for sustainable innovation by grounding the AI vision in practical use cases and leveraging real customer data within actual environments. The AI alert agent pilot showcased how routine, repetitive tasks could be automated, significantly reducing fulfilment time. This resulted in greater stakeholder buy-in, renewed momentum, and a validated pathway toward intelligent and autonomous data operations.

TOOLS & TECHNOLOGIES

Vertex AI (GCP), RAG Engine (GCP), Cloud Storage (GCP), BigQuery (GCP), GCP ADK (Agent Development KIT)



Vertex AI



Google Cloud Storage



BigQuery

