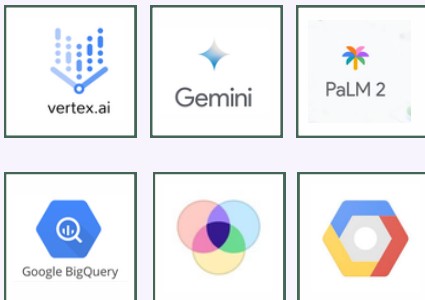


# Gen AI Chatbot and pipeline using Vertex AI and GCP for world's leading semiconductor manufacturer

## CLIENT

The client is a global infrastructure technology leader who is also a developer, manufacturer, and global supplier of a wide range of semiconductor and infrastructure software products. The client's product offerings serve the data center, networking, software, broadband, wireless, storage, and industrial markets

## TECHNOLOGY STACK



## PROJECT OBJECTIVES

The client needed a dedicated Gen AI chatbot and pipeline for assisting their Vulnerability Analysts in their analysis who are a part of Vulnerability Management WorkFlow using LLMs from Vertex AI such as Gemini Pro and Palm 2.

Currently their analysts work on the vulnerabilities found from the Vulnerability Management Tools like BlackDuck, Lacework, JFrog, Coverity and Qualys and these vulnerabilities end up on a unified dashboard called Armorcode which is a SecOps SaaS Application.

These vulnerabilities are handled on a day to day basis by analysts to recommend mitigation/ remediation/ Solution/ Patch/ Advisory/ Tool for the respective vulnerability from external web sources and handle the status of the vulnerability found.

## SOLUTION DELIVERY

- SquareShift's Data Engineer performed web scraping on website data to assess the data related to the vulnerabilities from multiple websites.
- Using GCP's BigQuery the data engineer's had built the database using the scraped web data and Armorcode data.
- SquareShift's AI Developer built this bot using Vertex AI's LLMs. They have created a chatbot interface which performs a RAG over the GCP's BigQuery and a ML pipeline which performs bulk remediation recommendations and status changes.
- Now the analysts have to interact with the chatbot for any assistance required and make use of the ML pipeline to get the missing remediations as well as Gen AI recommended.
- This Chatbot assistance and ML pipelines have increased the performance of a Vulnerability Analyst thus boosting their productivity on a day.

## Outcome

In summary, the developed solution has improved the efficiency of vulnerability analysts by confining them to Armorcode and Secure bot applications. The most recent information regarding the vulnerabilities was contained in BigQuery.