

## **AI Fraud Detection Chatbot project summary**

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For this project, I explore how generative AI could be used in a real-world setting. Specifically, in the banking industry for fraud detection. The idea came from my research paper, where I looked into how banks use data to spot fraud and how they might improve that process using modern tools like AI.

My goal was to build a chatbot that feels like a real assistant working at a bank. It would help users review their recent transactions, flag anything unusual, and guide them step-by-step through verifying or reporting suspicious activity.

I built this interface using Python, the Streamlit package for the UI, and integrated it with Google's Gemini API to power the AI responses. The transaction data is simulated and randomly generated to mimic what a small bank's user account might look like.

The chatbot was designed to simulate an authenticated banking environment with login, personalized responses, and AI acting in the voice of the bank (e.g., using "we" and "our system").

There are still limitations. For example, the chatbot currently only handles fraud-related queries and lacks broader conversational flexibility. Also, the dataset is simulated. I plan to integrate a real SQL database in future versions, improve natural language understanding, and explore visual AI-driven fraud scoring.

Nonetheless, this prototype shows how AI and structured data can create a guided, secure user experience and lays the foundation for a more advanced fraud assistant system.