Intelligent Defense:
Real-Time Fraud Detection with GenAI and Databricks

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Executive Summary

- Telecom fraud is a significant global issue, costing the industry over $28 billion annually through tactics like subscription fraud and account takeovers.

- Despite the implementation of advanced technologies, fraudsters are continually adapting, increasing the sophistication of their schemes.

- Leveraging cutting-edge GenAI technologies—such as tagging, classification, summarization, and Retrieval-Augmented Generation (RAG)—within the Databricks platform offers a powerful defense, enabling real-time, scalable, and accurate fraud detection and notification.

- Databricks' seamless deployment capabilities, coupled with user-friendly front-end tools like Streamlit, streamline the development and deployment of comprehensive fraud prevention solutions, ensuring telecom operators stay ahead of emerging threats.

Product Vision and Strategy

Vision	To revolutionize telecom fraud prevention by leveraging the power of Generative AI and advanced analytics, ensuring a secure and trustworthy communication ecosystem for all

Target Users	Telecom Operators	Customer Service Representatives	Fraud Analysts

Product Features	Real-Time Fraud Detection Automated Tagging and Classification Fraud Pattern Summarization	Self-Learning Fraud Detection	Interactive Dashboards Fraud Notification

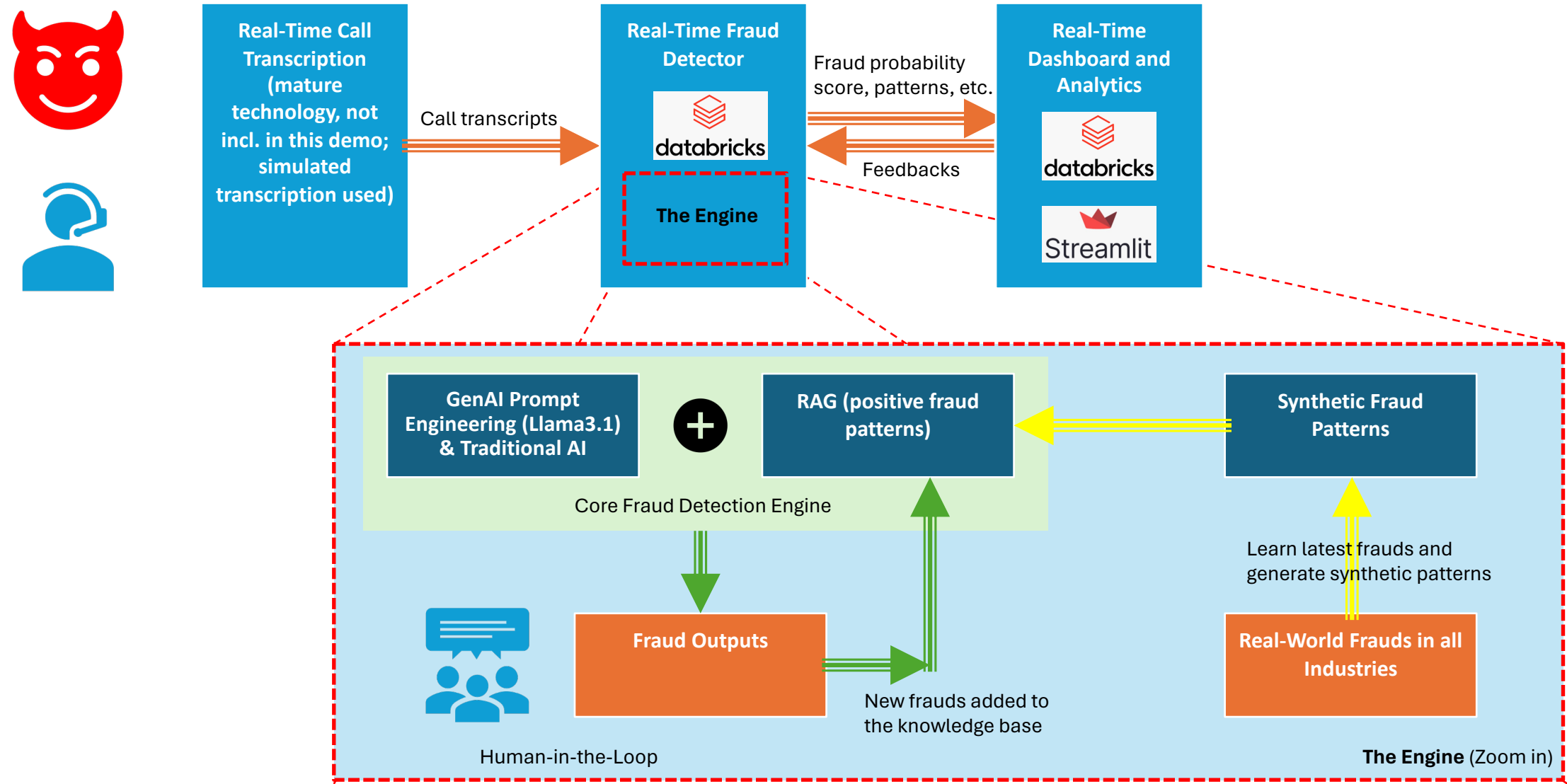|						
Core Technology	Generative AI (Open Source Models) & AI	RAG	Synthetic Transcript Data Generation	Human-in-the-Loop Feedback	Databricks Serving	Real-Time Queue (Kafka)

Architecture Diagram

Real-Time Call Transcription (mature technology, not incl. in this demo; simulated transcription used)

Call transcripts →

Real-Time Fraud Detector
databricks
The Engine

Fraud probability score, patterns, etc. →
← Feedbacks

Real-Time Dashboard and Analytics
databricks
Streamlit

Core Fraud Detection Engine

GenAI Prompt Engineering (Llama3.1) & Traditional AI + **RAG (positive fraud patterns)**

Synthetic Fraud Patterns

Learn latest frauds and generate synthetic patterns

Real-World Frauds in all Industries

Fraud Outputs

New frauds added to the knowledge base

Human-in-the-Loop

The Engine (Zoom in)

Demo

Conclusion

Summary:

- Telecom fraud is a significant and evolving threat.
- Advanced GenAI technologies provide a robust solution to counteract sophisticated fraud tactics.
- Databricks facilitates the seamless deployment of these technologies, enabling telecom operators to stay ahead of fraudsters.

Call to Action:

- **Adopt GenAI Solutions**: Encourage stakeholders to integrate GenAI into their fraud detection strategies.
- **Leverage Databricks**: Highlight the platform's capabilities in streamlining development and deployment.

Thank You!