FinGuard AI

Solution that enables banks to predict risks like loan defaults and fraud with speed and accuracy. It enhances data processing efficiency for large-scale financial datasets.

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Background

Banks and financial institutions need accurate and quick ways to predict risks, such as loan defaults or fraud. As the amount of financial data keeps growing, the existing systems struggle to process data fast enough. The goal of this project was to improve the speed and efficiency of risk predictions while handling massive amounts of data.

Key Challenges

Efficiently managing and processing large volumes of financial data without impacting system performance. The existing system experienced slow processing times, which delayed risk analysis and decision-making. Complex data transformations posed challenges in converting raw data into a prediction-ready format. Additionally, optimizing cloud services to balance cost-efficiency with high performance was a key requirement.

Our Solution

Improved Risk Prediction Algorithms to process data more efficiently. Better data handling by automating the way data is loaded and transformed in the system, making it faster and more reliable. Upgraded and automated data pipelines to reduce processing delays and allow real-time analysis. Cloud Optimization to ensure smooth and scalable data processing while keeping cloud costs under control.

Tech Stack

Data Processing & Querying: Spark-SQL, Python

Data Warehousing & Storage: Snowflake

Distributed Computing: AWS EMR, Hadoop

Value Delivered

Reduced computational load and improved real-time data processing speeds.

Optimized Spark-SQL logic and Snowflake integration to handle larger datasets effortlessly.

Automated pipelines enabled faster financial risk assessments and predictive analytics.

Efficient workload distribution on AWS EMR reduced operational costs while maintaining high performance.