

Using Fully Homomorphic Encryption (FHE)

Problem Statement

Challenge: Financial institutions need to perform analytics on sensitive customer data (PII, payment history, account details) while maintaining complete privacy and regulatory compliance.

- Traditional encryption requires decryption for processing
- Privacy breaches expose sensitive financial information
- Compliance requirements (GDPR, CCPA) demand data protection
- Cloud processing introduces additional security risks

Our Solution

FHE-powered Analytics Platform: Perform computations directly on encrypted financial data without ever exposing plaintext information.

- Upload encrypted financial datasets via Streamlit interface
- Execute homomorphic operations (arithmetic, polynomial evaluations)

- Generate analytics and visualizations from encrypted results
- Maintain privacy throughout the entire computation pipeline

Key Benefits

- Zero-knowledge data processing
- Regulatory compliance by design
 - Scalable cloud deployment
 - Real-time encrypted analytics

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