

Quantum for Financial Transformation: Portfolio Optimization and Fraud Detection

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Abstract:

Qkrishi Quantum is developing practical quantum solutions to address complex challenges in finance. This talk will spotlight two key innovations:

Quantum Portfolio Optimization (in CUG testing):

Our QUBO-based engine helps investors construct optimized, diversified portfolios while respecting real-world constraints like risk, allocation limits, and transaction costs. It supports monthly rebalancing and what-if simulations—enabling smarter, data-driven investment decisions using quantum-enhanced algorithms.

Hybrid Quantum Fraud Detection (demo-ready):

Our LSTM + quantum circuit model detects fraud in sequential transaction data with improved accuracy and speed. It minimizes false positives and adapts to imbalanced datasets—providing financial institutions with a more precise and scalable fraud risk engine.

These solutions are designed to bridge the gap between theoretical quantum models and business needs, paving the way for quantum-assisted decision systems in finance.