

## Introduction to Quantum Walks.

**Abstract:** Random walks represent a valuable mathematical tool for describing how behavior at the microscopic level can influence macroscopic phenomena in a multiscale framework.

Quantum walks constitute a notable evolution of random walks, applying quantum mechanical principles to explore new computational and simulation paradigms.

This approach finds a wide range of applications across various fields, including finance, where its processing offers new valuable insights.

My goal is to provide a clear, engaging, and straightforward explanation of the transition from the classical model to the quantum model of random walks. This brief review includes key definitions and properties, followed by a demonstration of a quantum model for financial applications.