FinTSB: A Comprehensive and Practical Benchmark for Financial Time Series Forecasting

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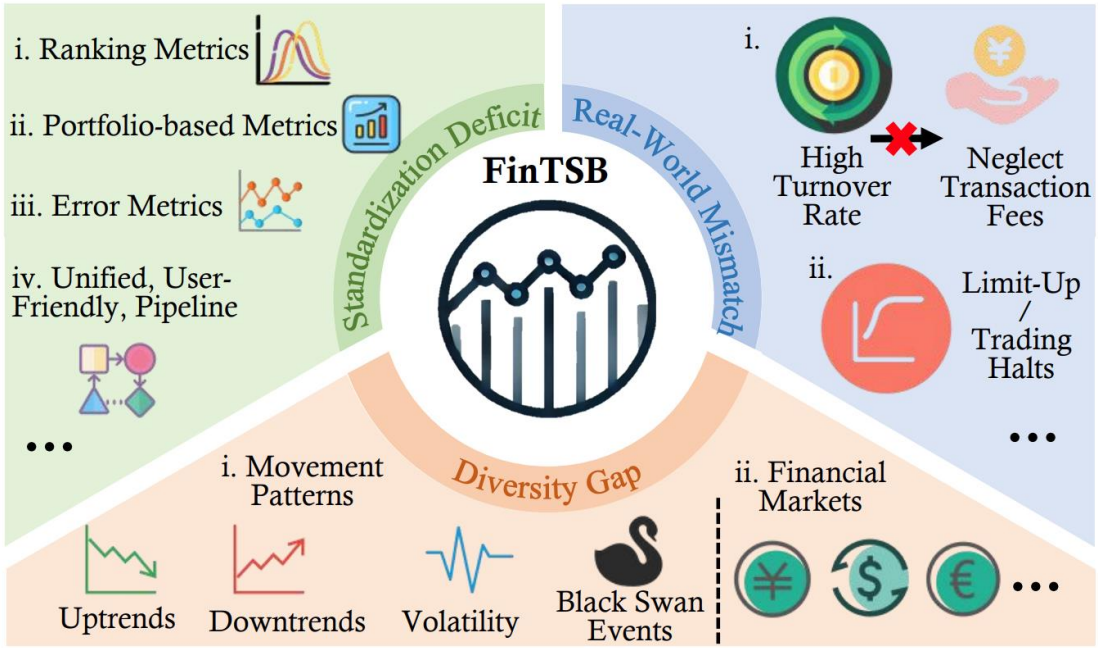
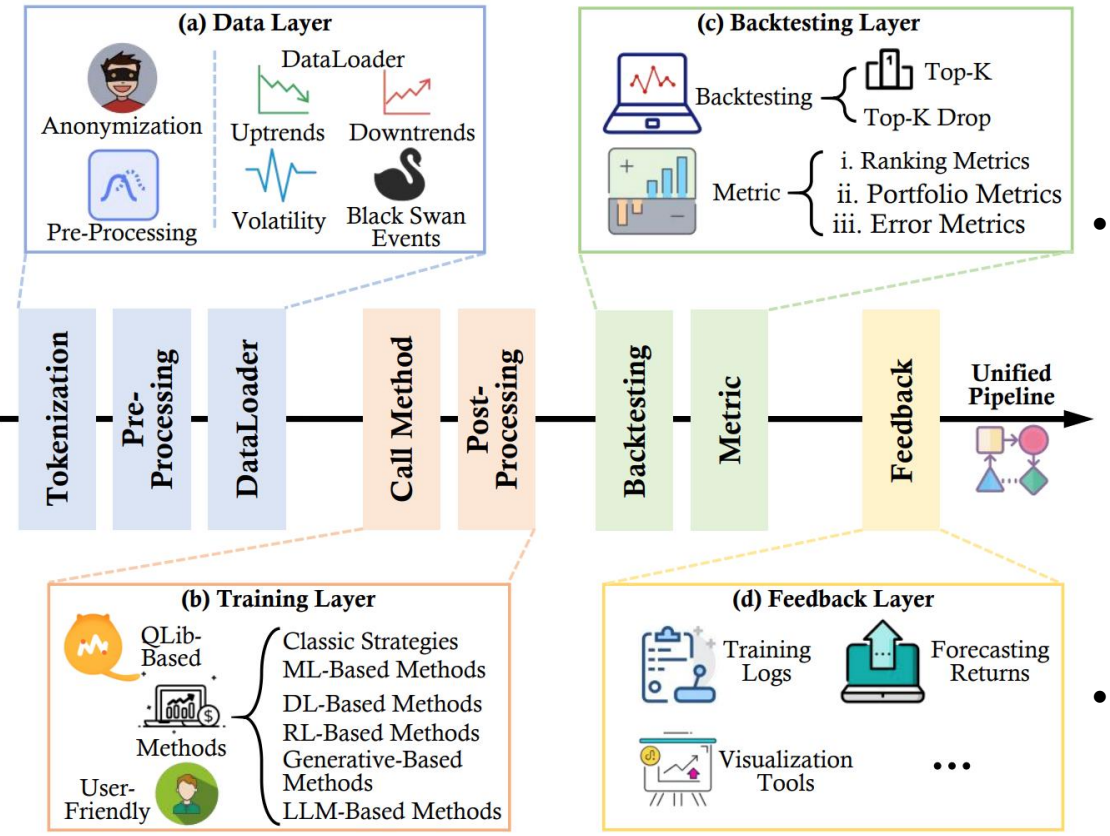
Research Questions

Financial time series forecasting is crucial for investment strategies, but current research faces three limitations.

- First, the 'Diversity Gap': many datasets fail to cover the full spectrum of stock movement patterns, such as sudden market crashes or 'black swan' events.
- Second, the 'Standardization Deficit': the lack of unified assessment protocols makes it nearly impossible to fairly compare different models across studies.
- Third, a 'Real-World Mismatch': many studies neglect critical market factors like transaction fees, leading to inflated performance metrics that don't hold up in real trading.



Main Contributions



The general framework of the FinTSB

- We propose FinTSB, a comprehensive and practical benchmark for financial time series forecasting.
- FinTSB categorizes market movement patterns into four specific types to ensure data diversity. It introduces a user-friendly, lightweight pipeline that integrates methods from various backbones, including RNNs, CNNs, and Transformers.
- FinTSB bridges the gap between theory and practice by modeling real-world regulatory constraints, such as transaction fees, to provide realistic estimates.