




# MULTI-STOCK INTERACTIVE VISUALIZATION DASHBOARD

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# TABLE OF CONTENTS

- Introduction & Motivation
  - Research Question & Dataset
  - Methodology & Tools
  - Dashboard Demo
  - Key Insights & Discussion
  - Limitations & Future Work
- 

# MOTIVATION

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## 01 ANALYSIS

Investors need to make informed decisions

## 02 MULTIPLE STOCKS

Current tools lack flexible multi-stock views

## 03 USER FRIENDLY

Supports basic analysis, gives clearer view of market



# RESEARCH QUESTION & DATASET

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How to visualize multi-stock price, volume, volatility effectively?

Dataset: Daily OHLC and volume for 5 major stocks

Time span: 1/4/2010 - 31/12/2024





## METHODS & TOOLS

- R + Shiny for interactivity
- Visualizations:
- highcharter: Candlestick charts
- plotly: Volume, Price trend, Volatility
- Data prep with tidyverse, rolling stats with zoo



# DASHBOARD FEATURES

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- Multi-stock & date range selection
- Candlestick, Volume, Price Trend, Volatility views
- Moving average window option (5,15,30 days)
- Interactive zoom & sliders

# DEMO

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# KEY INSIGHTS

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- Compare trends and volume across stocks easily
- Smoothing highlights important patterns
- Volatility reveals risk levels
- Interactive design improves user exploration



# LIMITATIONS

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- Static dataset, no live updates
- Performance issues with many stocks or large data
- No predictive analytics included
- UI can be enhanced further

# FUTURE WORK

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- Real-time data integration
- More stocks and instruments support
- Add predictive analytics and portfolio tools
- UI customization and user settings
- Accessibility improvements