

Plan Of Action - SoS '24

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1 End Goals

1.1 Stock Market Fundamentals

- Gain a comprehensive understanding of how stock markets operate, including key concepts like stocks, bonds, commodities, market indices, and trading exchanges.
- Learn the different types of parameters and what we can deduce about the stock/organization from them (which will later be helpful in devising better strategies).
- Gain a better understanding of how risk management works.

1.2 Mathematics behind Finance

- Learn how the prices of different types of derivatives are calculated and a brief history of how those algorithms evolved.
- Learn how the different types of parameters are calculated, which are used to judge the stocks.
- Gain a comprehensive understanding of the math that is used to reduce risks (such as in hedge funds)

1.3 Algorithmic Strategies

- Gain knowledge about how different trading algorithms have come up and learn how to create one of my own.
- Learn how different trading strategies are evaluated and compared.
- Learn how back-testing works (also create a mini back-tester if time permits)

2 Tentative Timeline

- **Week 1:** Learn about stock market fundamentals.
- **Week 2 & 3:** Learn about the different mathematical concepts and try to implement some important ones in Python.
- **Week 4:** Learn about managing risks in a portfolio and the different mathematical models devised for it.
- **Week 5 & 6:** Learn about different trading strategies and core ideas behind those algorithms.
- **Week 7:** Learn about different metrics used to evaluate strategies and the core model of back-testers.
- **Week 8:** Formulate and implement a trading strategy in Python, evaluate it, and try to figure out ways to improve it.

3 Resources

3.1 Videos

- Stock market fundamentals - [Zerodha Varsity](#)
- Fundamental Analysis - [YT Playlist by CNBC](#)
- Technical Analysis

3.2 Books

- [Successful Algorithmic Trading](#) by Michael L. Halls-Moore
- [Advanced Algorithmic Trading](#) by Michael L. Halls-Moore

3.3 Code

- Implementation of famous trading strategies - [GitHub](#)