



Project presentation

Project TITLE

FinTrack AI – Intelligent portfolio tracking

Team Name: *Binary Brains*

Institute: *Sister Nivedita University*

Members Overview:

Subham Saha : *Data-Analysis & Preprocessing, Machine Learning, Backend*

Nayan Manna : *DataBase Management, Session Management*

Sourav Mandal : *Frontend and Project presentation*

Tech Stack:

Languages: *Python, Html, Css, JS*

FrameWorks: *Flask, Tailwind, Matplotlib, scikitlearn, jQuery etc*

Database: *SQLite*

Version Control: *Git*





Introduction



What is a Mutual Fund ?


A Mutual Fund is a professionally managed investment vehicle that pools money from multiple investors to invest in a diversified portfolio of stocks, bonds, or other securities. It allows investors to benefit from diversification, professional management, and risk mitigation without directly managing individual assets.

Why is this Project Important?

Many investors struggle to allocate their funds optimally due to a lack of financial knowledge, risk assessment, and market trends. Inefficient portfolio allocation can lead to suboptimal returns or unnecessary risks. This project aims to address this gap by providing data-driven insights, portfolio optimization strategies, and risk assessment tools for better investment decisions and AI powered predictions.

Objective of the Project

The primary goal of this project is to enhance investment decision-making using data analytics and financial modeling. The key objectives include:

- ✓ Portfolio Optimization – Allocating assets efficiently for maximum returns and minimum risk
 - ✓ Risk Assessment – Analyzing historical data and volatility to determine risk levels
 - ✓ Returns Analysis – Predicting and comparing fund performance to make informed choices
 - ✓ Market Insights – Providing real-time financial trends and investment opportunities
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Market Overview & Background

Current Trends in Mutual Funds

Increased Retail Participation – More individual investors are entering mutual funds due to digital platforms and ease of access.

Rise of Passive Investing – Index funds and ETFs are gaining popularity due to low costs and stable returns.

AI & Data-Driven Investment Strategies – AI-based sentiment analysis and Modern Portfolio Theory (MPT) are being used to optimize portfolios.

Sustainability & ESG Investing – Investors are considering Environmental, Social, and Governance (ESG) factors in fund selection.

Systematic Investment Plans (SIPs) on the Rise – More investors are preferring SIPs over lump sum investments for disciplined investing.

Our Approach: Stock Optimization using MPT & Sentiment Analysis

📌 Modern Portfolio Theory (MPT):

Used to create an optimal portfolio with maximum returns for a given risk level.

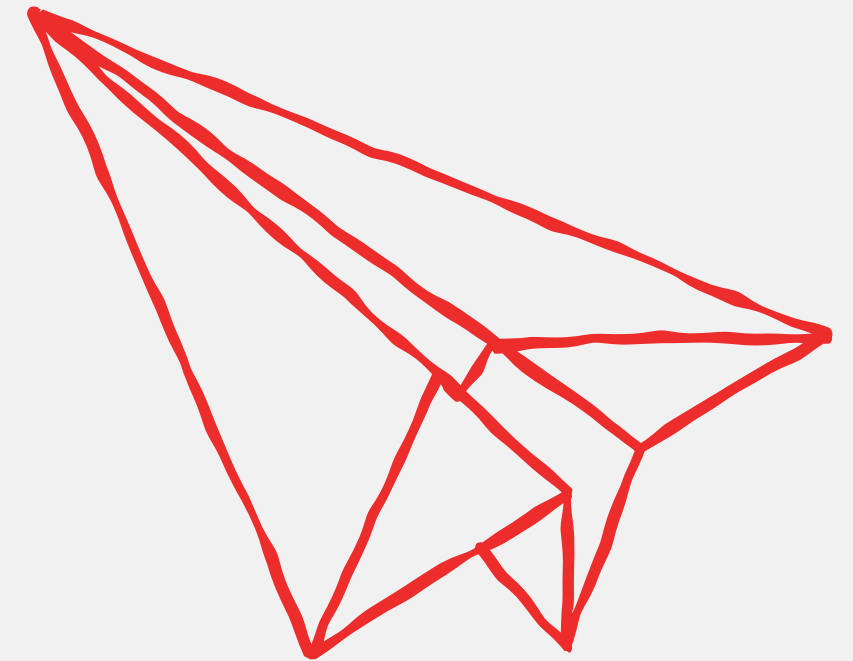
Diversifies investments across multiple asset classes.

📌 Sentiment-Based Optimization:

Uses news, financial reports, and market sentiment analysis to refine fund selection.

Identifies investor emotions like fear and greed, adjusting allocations accordingly.

💡 **By combining MPT with sentiment-based optimization, our project aims to enhance fund selection and maximize investor returns!** 🚀



Problem Statement

Investors face significant **challenges** in selecting the **right mutual fund schemes** and **optimizing their stock portfolios**. The vast number of available mutual funds, fluctuating market conditions, and emotional biases make it difficult to make informed decisions. Additionally, calculating the ideal **SIP investment** and constructing an optimized stock portfolio that **balances risk and return** requires expert financial knowledge. Many retail investors struggle with choosing the **best investment strategy, managing risks, and achieving their financial goals efficiently**.

Proposed Solution

This project leverages AI-driven analytics, Modern Portfolio Theory (MPT), and sentiment-based optimization to assist investors in making data-driven investment decisions.

- ✓ **Mutual Fund Prediction** – The system analyzes past performance, risk metrics, and market sentiment to recommend the best-fit mutual fund schemes for investors.
 - ✓ **SIP Calculation** – A user-friendly SIP calculator estimates monthly contributions needed to achieve financial goals, helping investors with long-term wealth creation.
 - ✓ **Portfolio Optimization** – Using **Modern Portfolio Theory (MPT)** and **sentiment-based analysis**, the system suggests the optimal stock allocation to maximize returns while minimizing risk.
 - ✓ **Sentiment-Based Market Insights** – AI-driven sentiment analysis evaluates financial news and market trends to identify potential investment opportunities and risks.
- 💡 By **integrating machine learning models**, financial data, and **risk assessment techniques**, the project provides a personalized and intelligent investment strategy for retail investors! 🚀

WOW Factor: Optimized Portfolio Using MPT & Sentiment Analysis

Revolutionizing Investment Decisions with Dual-Powered Optimization

- ◆ Modern Portfolio Theory (MPT): Maximizes returns while minimizing risk through advanced asset allocation.
- ◆ Sentiment-Based Optimization: Leverages real-time market sentiment analysis to capture trends beyond traditional models.

Why This Matters?

- ✓ **Adaptive & Smart:** Adjusts portfolios based on market trends, investor psychology, and risk tolerance.
- ✓ **Next-Gen Investment Strategy:** Blends traditional finance with cutting-edge AI to make more profitable and risk-aware investment decisions.

The Future of Smart Investing Starts Here!

“Numbers tell a story, but emotions drive the market—our model captures both!”



Thank you very much!

Repo Link: https://github.com/Subham-WH-GT/Mutual_Fund