Dashboard explanation:

Designed for investors with limited investment experience who have already selected up to five stocks, this dashboard streamlines the process of portfolio optimization. Users start by entering up to five stock tickers and setting their risk preference using an intuitive slider.
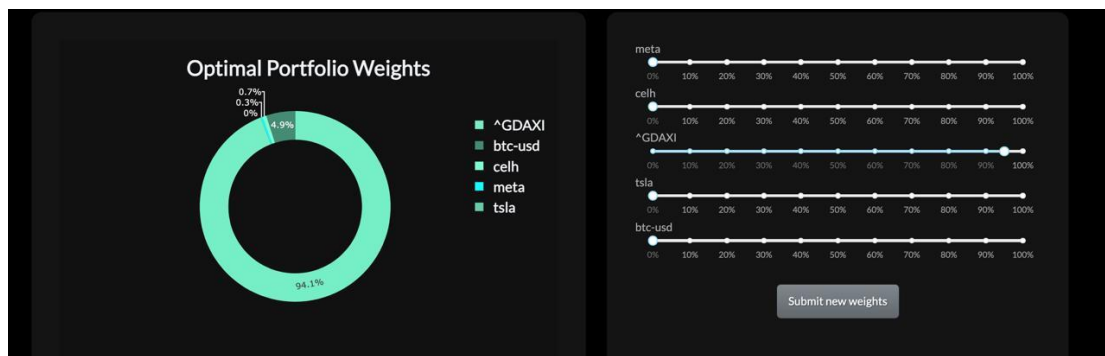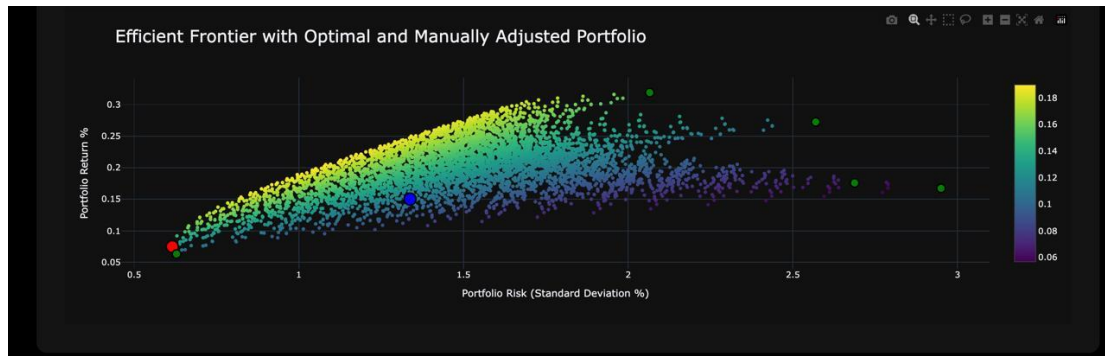

Once the tickers are entered, the dashboard retrieves key financial metrics—Market Cap, P/E Ratio, PEG Ratio, Enterprise Value, EV/Revenue—and displays them clearly on the platform.

Ticker	Market Cap	Trailing P/E	PEG Ratio	Price/Sales	Enterprise Value	EV/Revenue
meta	1278969118720	28.97816	0.86	8.961889	1258484269056	8.818
celh	13306594304	62.736263	1.62	9.412048	13253578752	9.375
^GDAXI	N/A	N/A	N/A	N/A	N/A	N/A
tsla	631078912000	50.73846	5.06	6.660815	614928154624	6.49
btc-usd	1214879236096	N/A	N/A	N/A	N/A	N/A

Getting the historical data from Yahoo Finance, the dashboard predicts future prices and generates an efficient frontier, illustrating all possible portfolio combinations. Then, the optimal portfolio weights are visually represented in a pie chart and highlighted as a red dot on the efficient frontier. For those who prefer more control, the dashboard allows manual adjustment of stock weights, with a blue dot showing the risk and return profile of the adjusted portfolio. This feature provides investors with a clear understanding of how different allocations impact their overall risk and return, enabling more informed investment decisions.

This functionality provides investors with valuable insights into the optimal allocation of their investments across the selected stocks with different proportion of stocks, and also provide the option to adjust their portfolio manually to see how the risk and return will change.

Resources:

https://smartasset.com/financial-advisor/mean-variance-optimization
https://medium.com/@phindulo60/portfolio-optimization-with-python-mean-variance-optimization-mvo-and-markowitzs-efficient-64acb3b61ef6
ChatGPT