

① INPUT YOUR STOCK.

stocks :

▼
AAPL
AMZN.
⋮

SUBMIT → Run LSTM Prediction.

② ADD CONSTRAINT

length of historical data :

▼
1 mo
3 mo
⋮
10 y

`year_ago = 1mo, 3mo, 6mo, 1y, 2y, 5y, 10y`

Short sale constraint :

▼
True
False

Short sale constraint :

▼
None
0.05
5
0.95

Cash you have :

\$

 → check input.

Submit.

↓
{ create portfolio object
 call portfolio.max_SRL()
 call portfolio.back-test(L)

③

③ Output.

ADD CONSTRAINT

Sharpe Ratio: 1.1282
Annul return: 45.35 %
Standard deviation: 37.49 %

	META	AAPL	GOOGL	IBM
Weight	-73.8%	110.5%	54.1%	9.2%
number of stock	-674	782	568	62



Black-Litterman

view = $\frac{\text{AAPL} \quad \text{META} \quad \text{GOOGL} \quad \text{IBM}}{-0.2 \quad 0.2 \quad -0.05 \quad 0}$ → view

ADD VIEW

→ call portfolio.Black-Litterman_model (view)

Sharpe Ratio: 0.2995
Annul return: 13.819999999999999 %
Standard deviation: 35.96 %

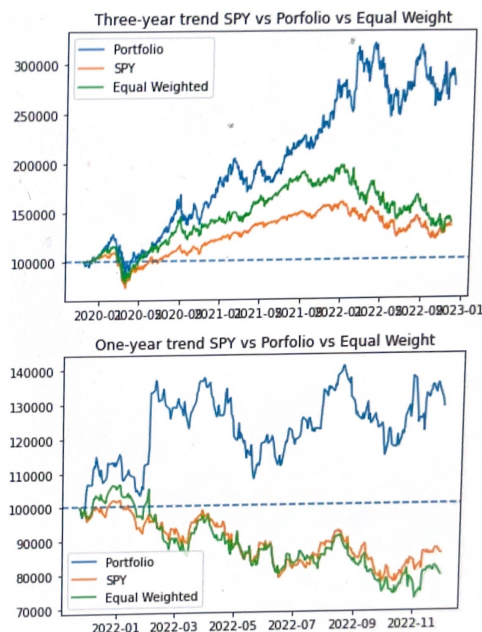
	META	AAPL	GOOGL	IBM
Weight	-79.7%	91.9%	62.8%	25.0%
number of stock	-728	651	659	170



Back-test

call

portfolio.back-test()



④



SENTIMENT

PREDICTION

→ ⑤

⊕ SENTIMENT

AAPL			sentiment score : 0.8		
Twitter			Reddit		
xxxxxx			xxxxxx		
⊕ -2 ← more			more		
			News		
			xxxxxx		
			more		

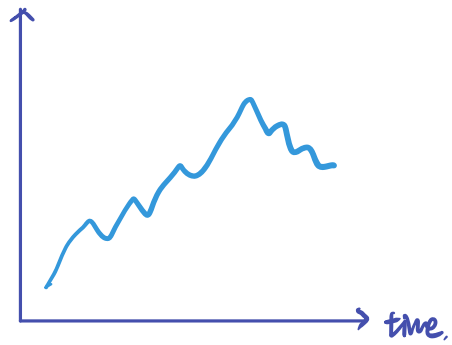
AMZN			sentiment score : 0.2		
Twitter			Reddit		
xxxxxx			xxxxxx		
more			more		
			News		
			xxxxxx		
			more		

⊕ - 2

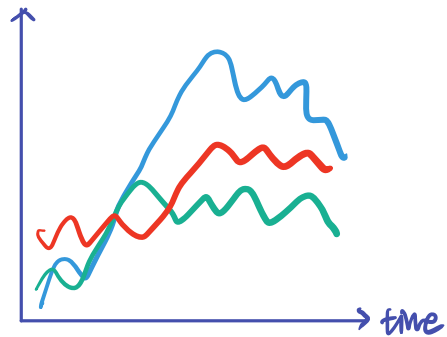
sym	link	platform	date	content	sentiment
AAPL	http...	twitter	Nov 30	xxxxx	0.8
AAPL	...	twitter	Nov 30	xxxxx	0.7

⑤ TIME SERIES PREDICTION

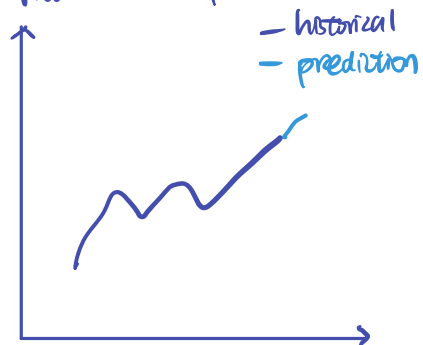
Financial market sentiment



Stock price



Prediction of portfolio



individual prediction → ⑤-2

⑤-2 Prediction of individual stock

