



# **Paper Trading with Machine Learning Models**

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## Insights

We have run both EMA and STL based models for Paper Trading. Despite the period being bad due to the current situation (Russia-Ukraine war having negative impact on trade), the EMA based model is performing better than the STL based. There are so many valleys than peaks on the trend, and the algorithm has bought stocks but have not sold yet. However, we believe that we should test the model for a longer period like for a month or two to get understanding of the model performance. Below are screenshots showing Paper Trading live action and the Paper Trading account summary in Alpaca for EMA based model, and the history of the buy and sold order

**Profit:** about 9% status, but model didn't instruct to sell. So, nothing has been sold, which makes sense last week, the trend was downward

**Best model:** EMA based model

**Buy and Sell History:** Because of the unfortunate downward trend during the week the paper trade executed, the strategy decided only to buy but not sell.(Fig 4)

## Running Paper trading

please uncomment the code below for running the trade job

```
5]: p = pTrader.PaperTrader( API_KEY_ID=Api_Key,SECRET_KEY=Secret_Key,model='ema')
    p.run_trading()

Starting trading MSFT
Finishing trading MSFT
Starting trading GOOG
Finishing trading GOOG
Starting trading NFLX
Finishing trading NFLX
Starting trading AMD
Finishing trading AMD
Starting trading FB
Finishing trading FB
```

Fig 1. While paper trading is running

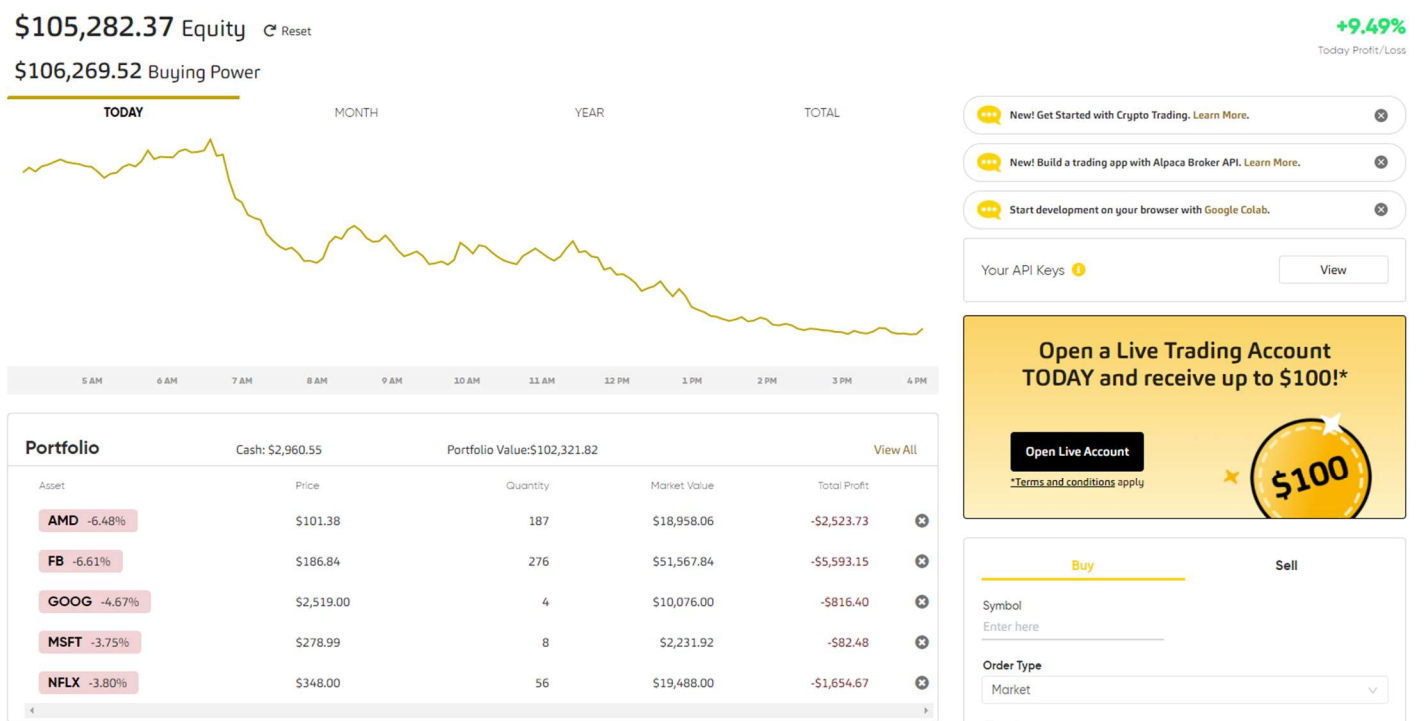


Fig 2. Paper Trading Status on EMA based model

# Positions



Liquidate Selected Positions

<input type="checkbox"/>	Stock	Shares	Price	Avg Entry	Cost Basis	Market Value	Today's P/L (%)	Today's P/L (\$)	Total P/L (%)	Total P/L (\$)
<input type="checkbox"/>	AMD	187	\$101.38	\$114.88	\$21,481.79	\$18,958.06	-6.54%	-\$1,325.89	-11.75%	-\$2,523.73
<input type="checkbox"/>	FB	276	\$186.84	\$207.11	\$57,160.99	\$51,567.84	-6.62%	-\$3,656.91	-9.78%	-\$5,593.15
<input type="checkbox"/>	GOOG	4	\$2,519.00	\$2,723.10	\$10,892.40	\$10,076.00	-4.67%	-\$493.76	-7.50%	-\$816.40
<input type="checkbox"/>	MSFT	8	\$278.99	\$289.30	\$2,314.40	\$2,231.92	-3.56%	-\$82.48	-3.56%	-\$82.48
<input type="checkbox"/>	NFLX	56	\$348.00	\$377.55	\$21,142.67	\$19,488.00	-3.76%	-\$760.34	-7.83%	-\$1,654.67
<input type="checkbox"/>										
<input type="checkbox"/>										

Fig 3. Account Positions

Closed Orders ▾

Symbol	Qty	Filled Qty	Side	Type	Time in Force	Limit Price	Stop Price	Filled Avg Price	Notional	Amount	Status	Submitted at	Filled at	Canceled at	Replaced
FB	13	13	buy	market	day	-	-	\$200.69	-	\$2,608.97	filled	2022-03-05 14:33:06	2022-03-07 06:30:10		
AMD	24	24	buy	market	day	-	-	\$108.88	-	\$2,613.12	filled	2022-03-05 14:33:05	2022-03-07 06:30:13		
NFLX	7	7	buy	market	day	-	-	\$360.51	-	\$2,523.57	filled	2022-03-05 14:33:04	2022-03-07 06:30:13		
MSFT	8	8	buy	market	day	-	-	\$289.30	-	\$2,314.40	filled	2022-03-05 14:33:02	2022-03-07 06:30:10		
FB	30	30	buy	market	day	-	-	\$203.35	-	\$6,100.50	filled	2022-03-03 15:40:32	2022-03-04 06:30:05		
AMD	55	55	buy	market	day	-	-	\$111.77	-	\$6,147.35	filled	2022-03-03 15:40:29	2022-03-04 06:30:04		
NFLX	16	16	buy	market	day	-	-	\$369.59	-	\$5,913.44	filled	2022-03-03 15:40:26	2022-03-04 06:30:05		
FB	61	61	buy	market	day	-	-	\$208.62	-	\$12,725.82	filled	2022-03-02 14:11:07	2022-03-03 06:30:08		
AMD	108	108	buy	market	day	-	-	\$117.79	-	\$12,721.32	filled	2022-03-02 14:11:06	2022-03-03 06:30:19		
NFLX	33	33	buy	market	day	-	-	\$385.02	-	\$12,705.66	filled	2022-03-02 14:11:04	2022-03-03 06:30:16		
GOOG	4	4	buy	market	day	-	-	\$2,723.10	-	\$10,892.40	filled	2022-03-02 14:11:03	2022-03-03 06:30:03		
FB	78	78	buy	market	day	-	-	\$204.52	-	\$15,952.80	filled	2022-03-01 13:00:54	2022-03-02 06:30:20		
FB	94	94	buy	market	day	-	-	\$210.35	-	\$19,772.90	filled	2022-02-28 13:33:15	2022-03-01 06:30:16		

Fig 4. Close order history details