



Math Finance Club

### Math Finance Club @ UCI | Instagram

Join us to build strong internal and external networks in quantitative finance.

 Linktree / Feb 4

# Linktree\*



**JOIN OUR DISCORD TO START  
LEARNING THE MARKET,  
TRENDING, ANALYSIS AND MORE!**





**Math  
Finance  
Club**



## UChicago Application Meeting

7pm | ISEB 1310

Snacks provided. All are welcome :)



## Quant Career Panel

7pm

Network with industry professionals!



FORMER  
EVP AT  
PIMCO

RAMA  
NAMBIMADOM

retired Head of  
quant credit  
Portfolio  
Construction



CAPITAL  
GROUP®

ANATOLII GORMIN  
Sr. Quant  
Engineer



Strategic Global Advisors®  
VAIBHAV KUMAR  
Sr. Quant Analyst



## Trading Workshop

7pm

Learn tips and tricks from graduate advisors.

**2023**

**SO-CAL TRADING  
COMPETITION**

**REAL TIME DATA FROM  
NASDAQ**

Hosted by the Math Finance Club @ UCI  
In partnership with Rapunzl

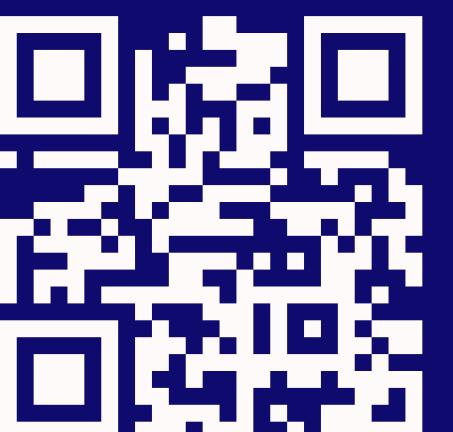




Math Finance Club

INTRO TO QUANT TRADING

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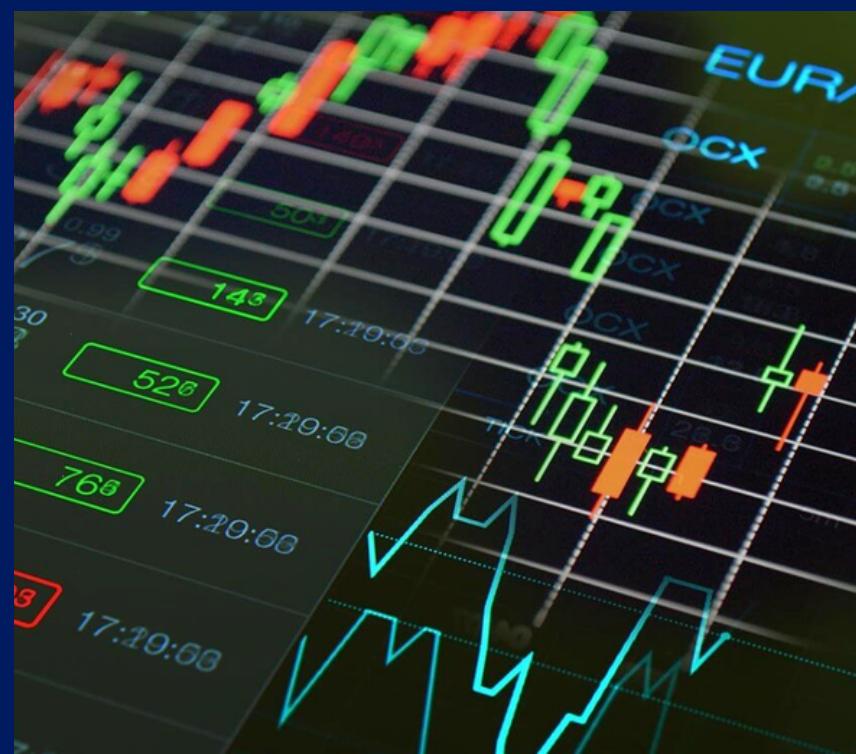


# AGENDA

- Quantitative Trading
- Backtesting
- OHLC candles
- Indicators
- Golden crossover strategy
- Let's BACKTEST!

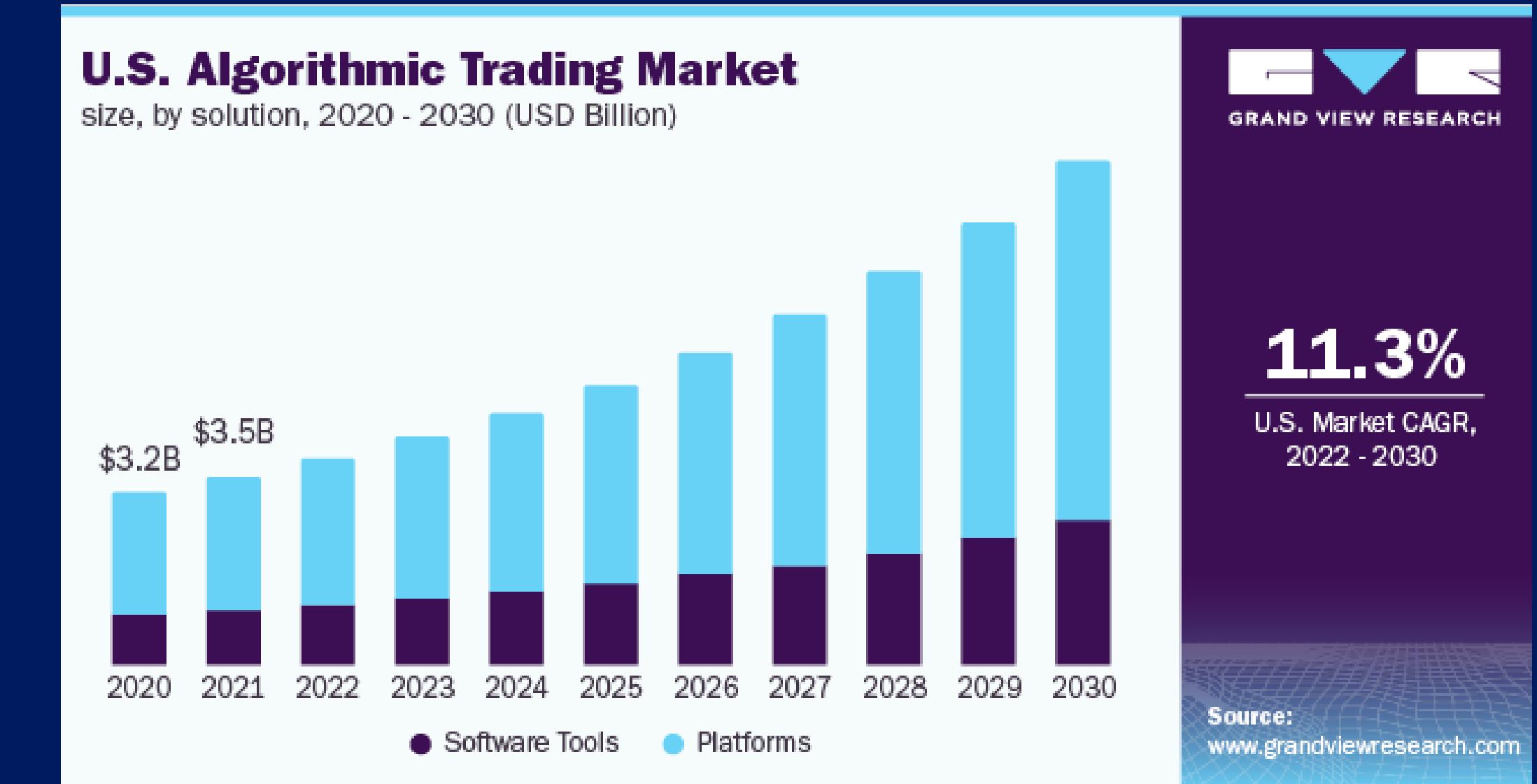


# WHAT IS QUANTITATIVE TRADING?



# QUANT DOMINATES THE MARKET

- Automation
- high frequency
- objective > subjective
- Historical data → reasonable prediction
- Fast execution and making decisions by the machine (algo)



# BACKTESTING



- Backtesting helps traders identify potential risks associated with a trading strategy and make adjustments to minimize these risks.
- Provides a realistic understanding of the volatility and performance of their strategy
- Helps determine the optimal parameters for a trading strategy
- Validates the efficacy of their trading strategies

# SIGNIFICANCE OF BACKTESTING

Validation of Strategy

Identification of  
Weaknesses

Objective Assessment

Reduced Emotional Impact

# BEST CODING LANGUAGE FOR QUANTITATIVE TRADING?

- Python
- C++
- Matlab
- R



## DISCLAIMER

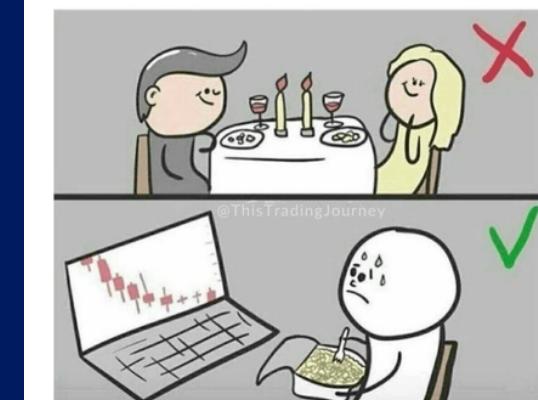
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# CANDLES



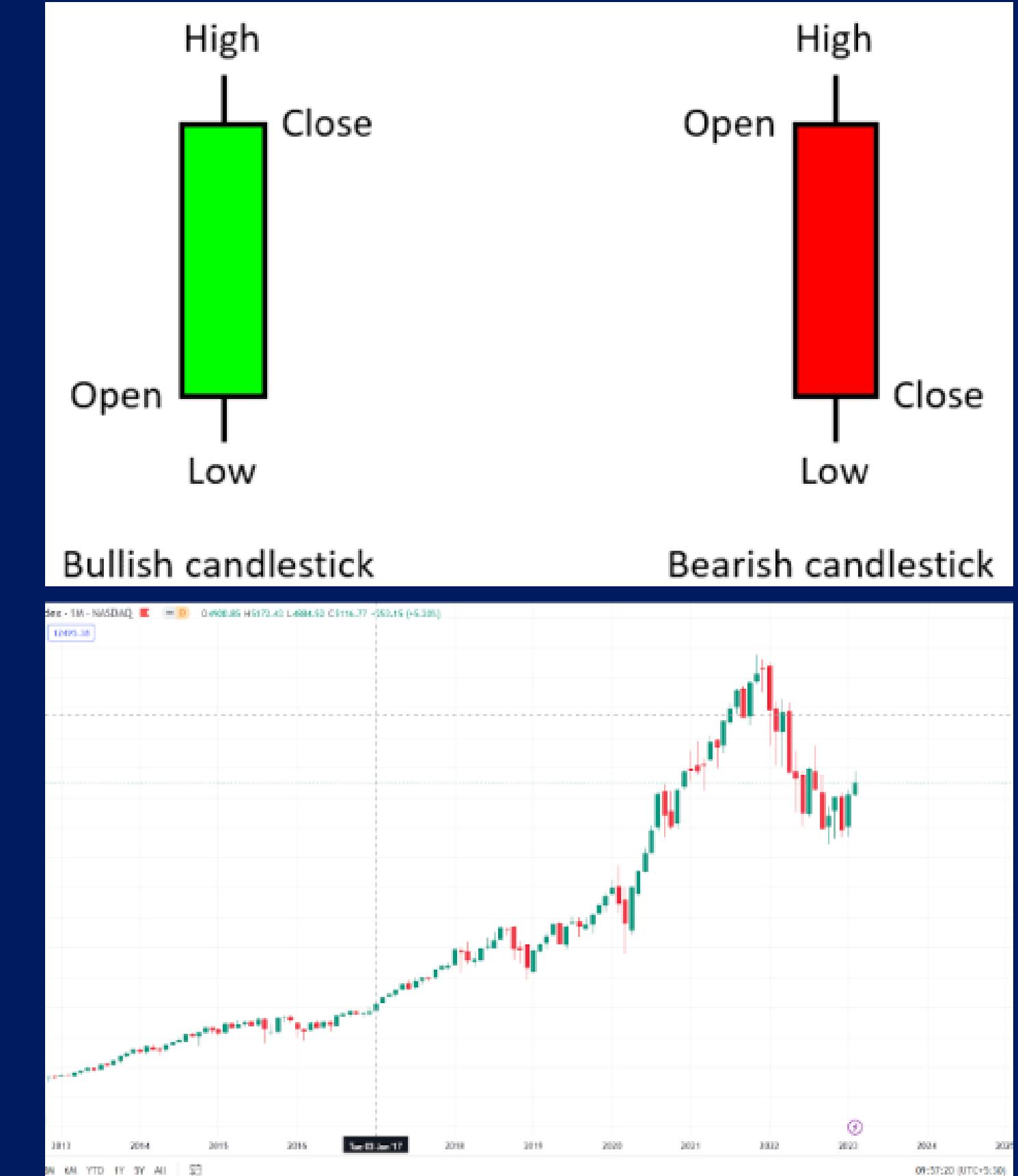
Dinner with candles



# CANDLES

An OHLC (Open-High-Low-Close) candle is a type of financial chart that is used to represent price movements over a specified time period.

- **Open price**
- **High price**
- **Low price**
- **Close price**



# Indicators

A technical indicator is a statistical calculation based on the price and/or volume of a security.

1. SMA: Simple Moving Average
2. EMA: Exponential Moving Average
3. MACD: Moving Average Convergence Divergence
4. Pivot points



# SMA (SIMPLE MOVING AVERAGES)

Takes the average of a set of past closing prices over a specified number of time periods.

Determine trends

Support and Resistance levels

Potential buy and sell signals.



# EXPONENTIAL MOVING AVERAGE (EMA)

- Exponential Moving Average (EMA) is similar to SMA
  - More weight to recent prices and reacts more quickly to recent price changes
  - Applying a percentage of the current price to the previous EMA value





## GOLDEN CROSS OVER

- Indicators: 200 EMA/SMA and 50 EMA/SMA
- Timeframe: Daily
- Buy Condition: When 50 EMA/SMA crosses over 200 EMA/SMA
- Sell Condition: When 200 EMA/SMA crosses over 50 EMA/SMA

# Let's run a backtest!

CHOOSE YOUR  
FAVORITE STOCKS ☺



**Math  
Finance  
Club**

**THANK YOU!**

[mathfinanceclub@uci.edu](mailto:mathfinanceclub@uci.edu)

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