

# MACD Crossover Strategy

Team 9 QUANTT Algorithm Pitch

# What is MACD?

**Definition:**

Moving average convergence/divergence (MACD, or MAC-D) is a trend-following momentum indicator that shows the relationship between two exponential moving averages (EMAs) of a security's price.

**Formula:**  $\text{MACD} = 12\text{-Period EMA} - 26\text{-Period EMA}$

# How Does Our MACD Crossover Strategy work?

Components:

- 1) MACD line(12-day EMA - 26 day EMA)
- 2) Signal line(9-day EMA of MACD Line)
- 3) Histogram(MACD Line - Signal Line)
- 4) Zero line



# Application



# Capital Allocation

## Selection of Equities:

- To start, we will choose 500 of the biggest US and Canadian Equities by market cap to start
- Backtesting could provide insight on which stocks the strategy works better on. From there, we refine the list of equities to the ones that yield the highest return rate

## Hedging our Positions:

- Investing a fraction of our capital into government bonds could provide a needed hedge in the case of a bear market
- Common strategy is 30% bonds, 70% stocks
  - If time allows, could create a sub-algorithm to vary this weighting based on performance of strategy

# Possible Incoming Adjustments

1. Introduce long term EMA(200 days) to indicate trend
2. Introduce mean reversion or fibonacci retracement strategy when momentum goes sideways
3. Change capital allocation based on backtesting result

Thank you!