



# Pirate Trading Platform

Open source automated trading for everyone



# “I got a really big team.” - Aubrey Graham

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Pirate Trading Platform is  
the first open-source  
automated trading  
platform.



Using vanilla  code frameworks  
and our own algorithms ,  
we did what is only really being  
done by big banks    



# The platform is:

- **Modular** `b.y.o. data and algorithms`
- **Lightweight** `deploy anywhere`
- **Extendable** `adding new features without hassle`



# Case Study: Bid-Ask Arbitrage

Automation allows us to take advantage of discrepancies between bid prices and ask prices.



# Design Considerations - Buy

Conditions for buying:

- If the bid price is more than the (ask price + threshold), buy.

The threshold can be configured by the user. It exists so that the user can declare a larger bid-ask spread on the fly.



# Design Considerations - Sell

## Conditions for selling:

- If current price is less than our bought at threshold, sell.
- If the current price is stagnant for  $N$  number of observations, sell.
  - *$N$  being a risk appetite supplied to program by user*
- If the current price is descending and cannot recover peak after  $N$  number of observations, sell.
  - *$N$  being a risk appetite supplied to program by user*

If these conditions are not met, program will continue to hold stock.





# Let's demo.



# Improvements and Conclusion

- Expanding selling and hunting algorithms to take into consideration industry health and find volatile stocks.
- Currently the user determines risk appetite and we want to replace that with an automated evaluation of risk appetite.
- Programming optimization for speed & deployment.



# Check it out!

<http://fordhamcss.me/ptp>

<http://github.com/fordhamcss/ptp>