

# Automatic crypto trading in Pharo




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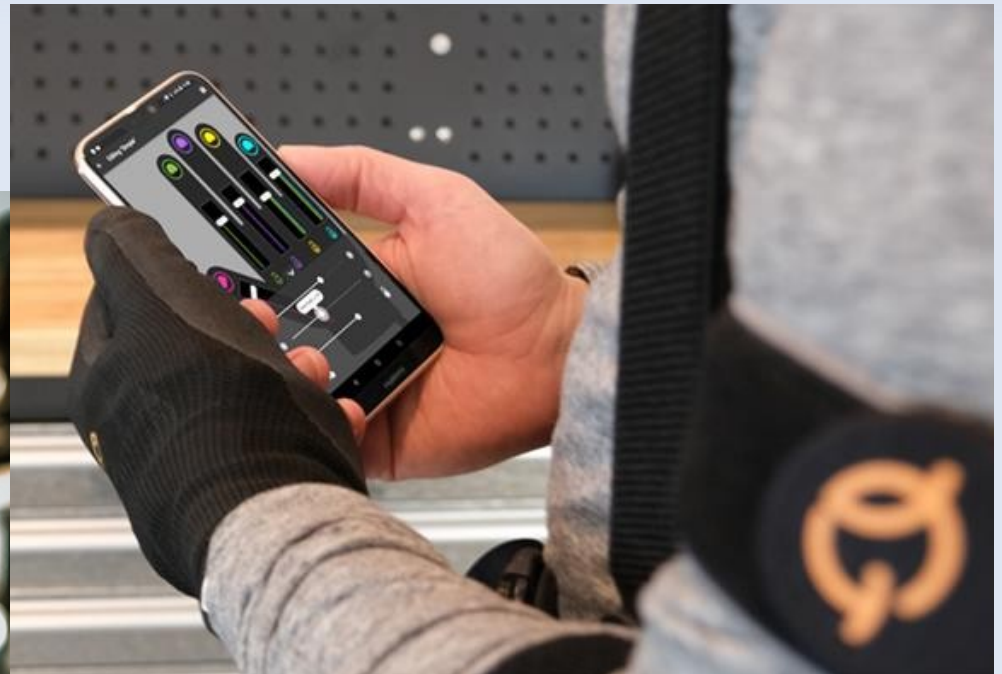
[goran.krampe.se](http://goran.krampe.se)

# Me and Smalltalk

- Smalltalker since **27** years!
- Was **very** active in Squeak
- Worked in Squeak, VisualWorks, VisualAge, Dolphin Smalltalk, GemStone
- Worked last with 3DICC on Terf
- Created Spry

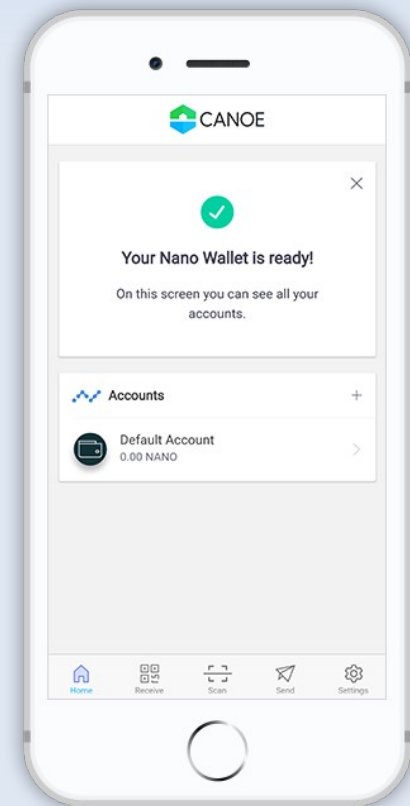
# These days...

- I work at Bioservo mainly in  **Dart**
- Some freelancing jobs on the side



# World of crypto currencies

- I started learning about crypto in late 2017
- Quickly chose **Nano** and created Canoe
- ...but stopped Canoeing in 2020
- Still have ideas around Nano
- And trading is still interesting!



# Binance

- One of the top 10 crypto exchanges
- Possibly biggest in trading volume



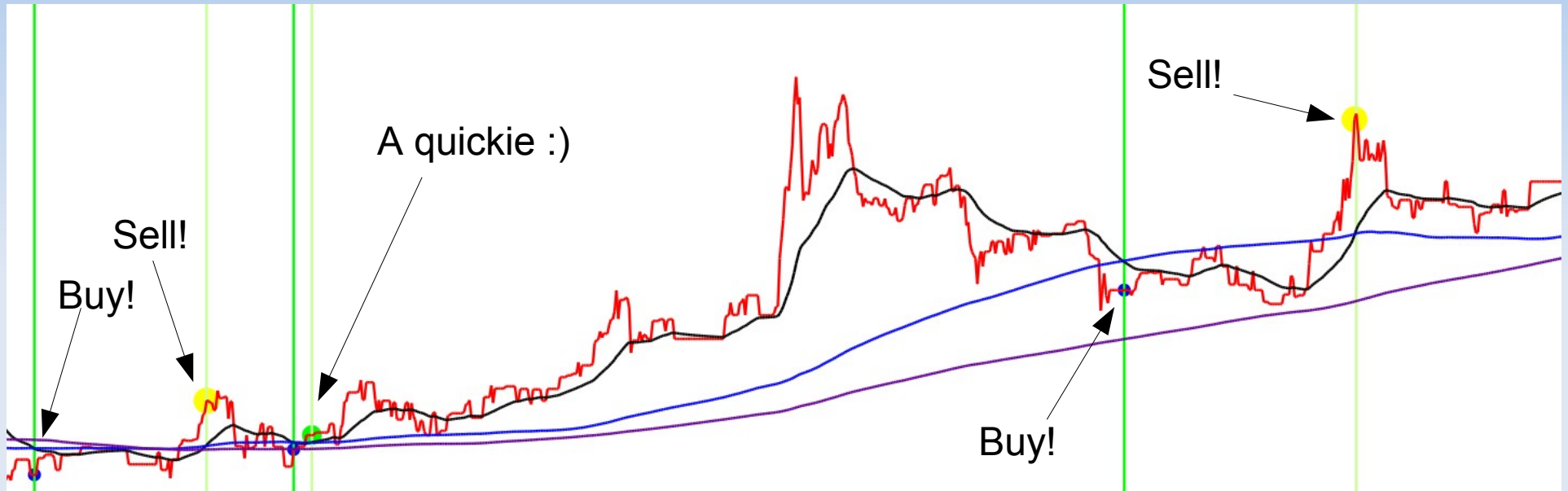
# Stuff used

- Pharo (not the latest)
- Zinc HTTP, NeoJSON
  - Authentication, request trading history, place orders, cancel orders, check status of orders, request order book etc
  - Tricky custom signing, hack to make sure URL parameters are ordered!
- Roassal 2
  - A bit... odd, but works-kinda-ish

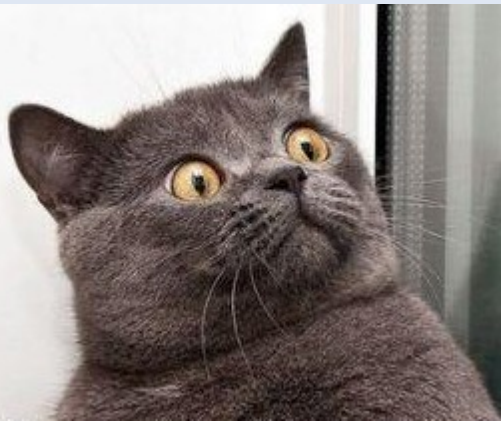
# Features

- Trades in separate parallel "Positions" matching buy with sell order
- Extensive simulation on historic data
- Implemented several "indicators" and easy to mix and match in algorithms
- Brute force simulation in background to optimize parameters...

# Roassal 2



- Up to 80% hit rate on prediction
- Order execution troubles
- ... but it sure does seem to work!





# Next Steps

- Make smarter orders using stop limit order type
- Add volume indicator and others
- Run an evaluation period using the dynamic parameter optimization
- Perhaps play with "triangular arbitrage" and other "multi pair" strategies
- **PROFIT! :)**

# Experiences

- Playing with trading is fun!
- Smalltalk is perfect, exploratory coding
- Cog VM ... not 100% reliable on BIG images
  - ... but this may have changed!
- I find Pharo a tad "messy" and overly complex, but some things are really nice
- Hunting pointers is a PITA
- Roassal is hard to understand

# Questions?

Bitcoin tx 20min      NANO tx 1sec       better than  
NANO Batcoif

