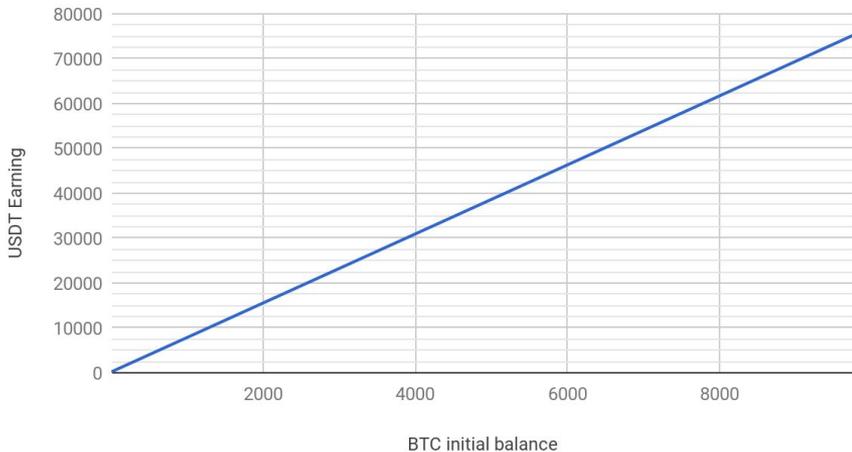


# Cryptocurrency Trading

1. Dataset alignment
2. Initial account balance importance
3. Hyperparameter search

04/21 - 06/26

Earning w.r.t. BTC initial balance



hyperopt

```
from hyperopt import fmin, tpe, hp
best = fmin(fn=lambda x: x ** 2,
           space=hp.uniform('x', -10, 10),
           algo=tpe.suggest,
           max_evals=100)
```

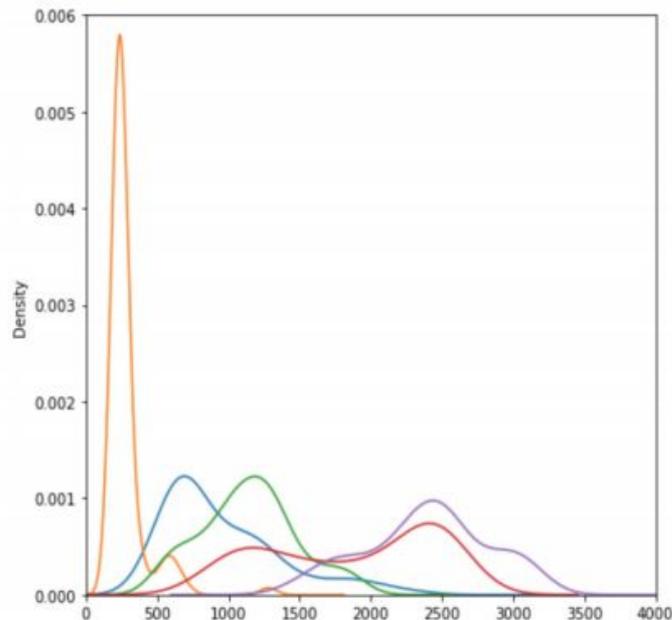
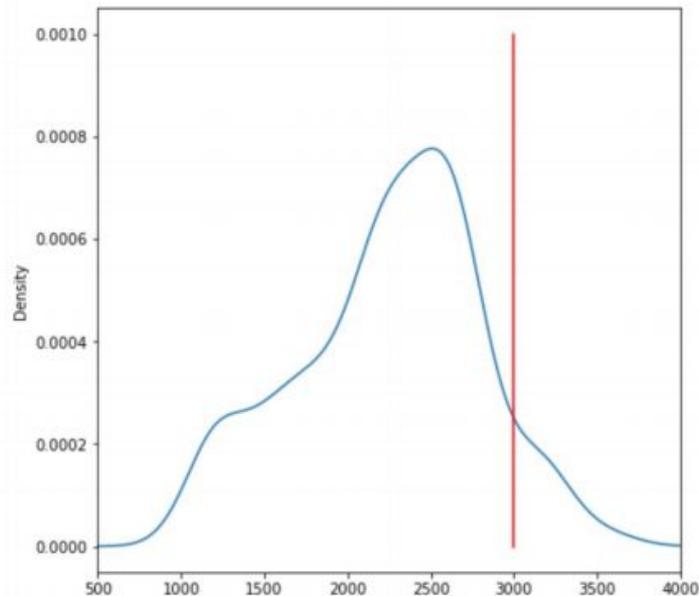
```
print best
```

scikit-optimize

**1.0 0.0 0.0**

**Only the latest price matter!**

# Data Analysis for Eco-Energy Bot



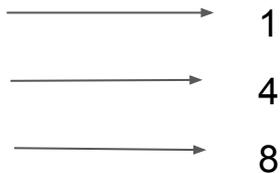
- Bot Algorithm : binary decision based on **threshold** value
- Problem : Need an **adaptive threshold**
- **Time series** analysis.

raj

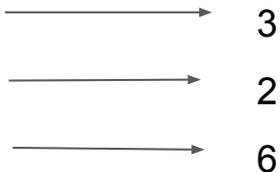
Insert

0
0
0
0
0
0
0
0
0
0
0

Cat



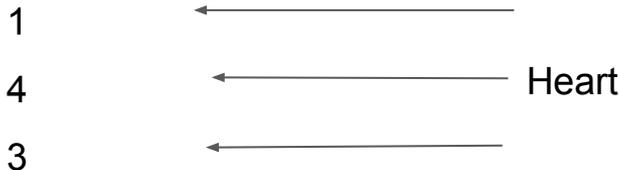
Hat



K different hash functions with output of an indice that is turned on to 1

1
0
0
0
1
0
0
0
0
1
0
0

Lookup



Why can't you use one hash function? If you do it will cause issue that

More the number of 1s the higher the probability of a false positive. Likewise, fewer the hash functions, higher the probability of a collision.

A Bloom filter is a (space efficient) data structure that is used to check for membership of an element x in a set of m elements.

Can use as little as 10 bits per element with around 1% error rate (according to wikipedia)

N length bit array (n is usually much larger than the number of elements)

# Sensors and AI - Background survey of AI applications for IoT

Generate Lot of Data → Less Data

Contains Lot of Noise → Less Noise

Autonomous and less data transmission

Dumb(No intelligence) → Make Decision

Sensor Data → Features → Pattern/Region → Labels → Decision

Smart Sensors

Motion Intelligence

**Behavior Analysis and Prediction ( from power consumption, light control, room temperature, ... )**

ESP8266 IoT Device Demo(MCU with Wi-Fi)

<https://drive.google.com/file/d/1XaceftuVPgo7OSYZ2mp0nAN2KfZi7PMT/view?usp=sharing>

References

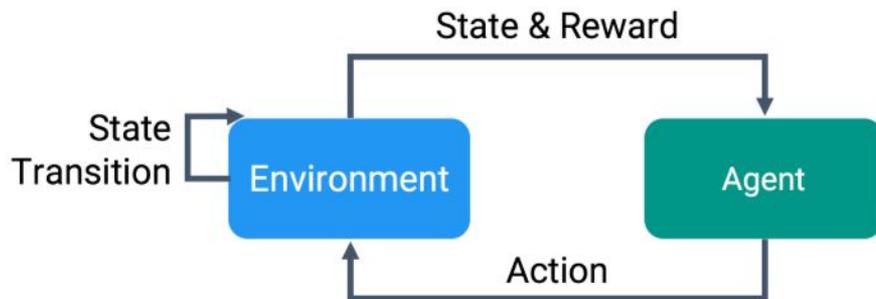
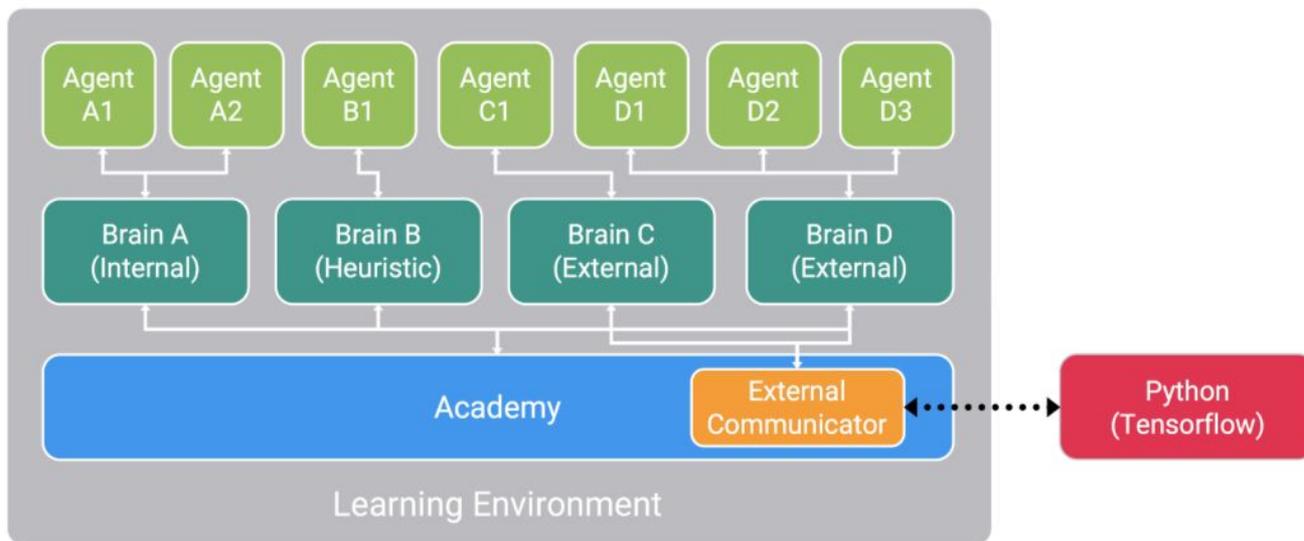
Artificial Intelligence Plus the Internet of Things (IoT) - 3 Examples

<https://www.techemergence.com/artificial-intelligence-plus-the-internet-of-things-iot-3-examples-worth-learning-from/>

Sensors and Artificial Intelligence (Imageimob's SenserBeat - Real time AI on the edge )

<http://imageimob.com/resources/sensors-and-artificial-intelligence>

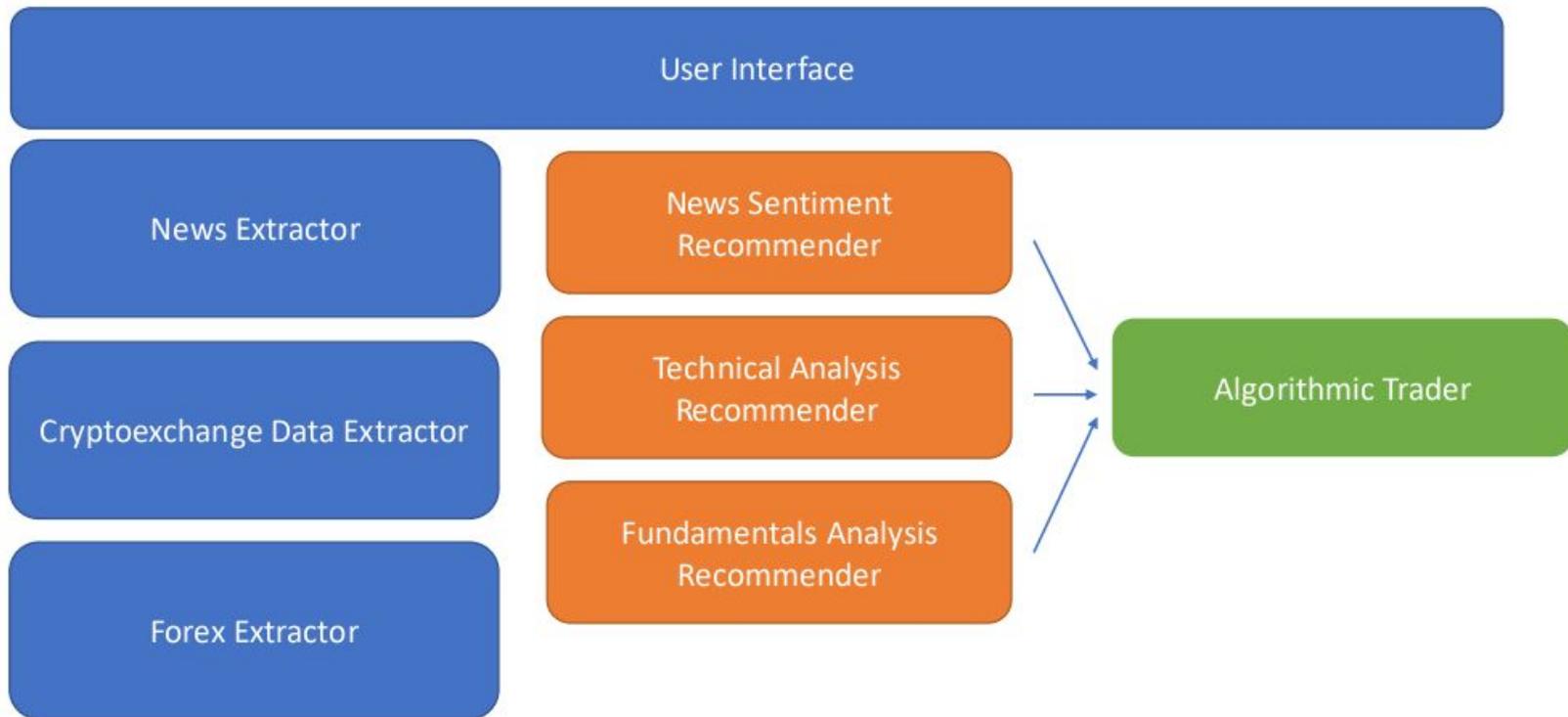
yun



$$P_a(s, s') = Pr(s_{t+1} = s' | s_t = s, a_t = a)$$

$$R_a(s, s')$$

# Project SimplyTraded (Vincent C)

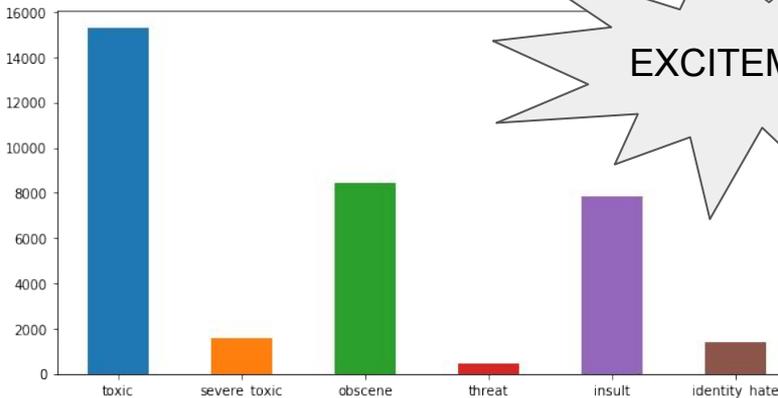
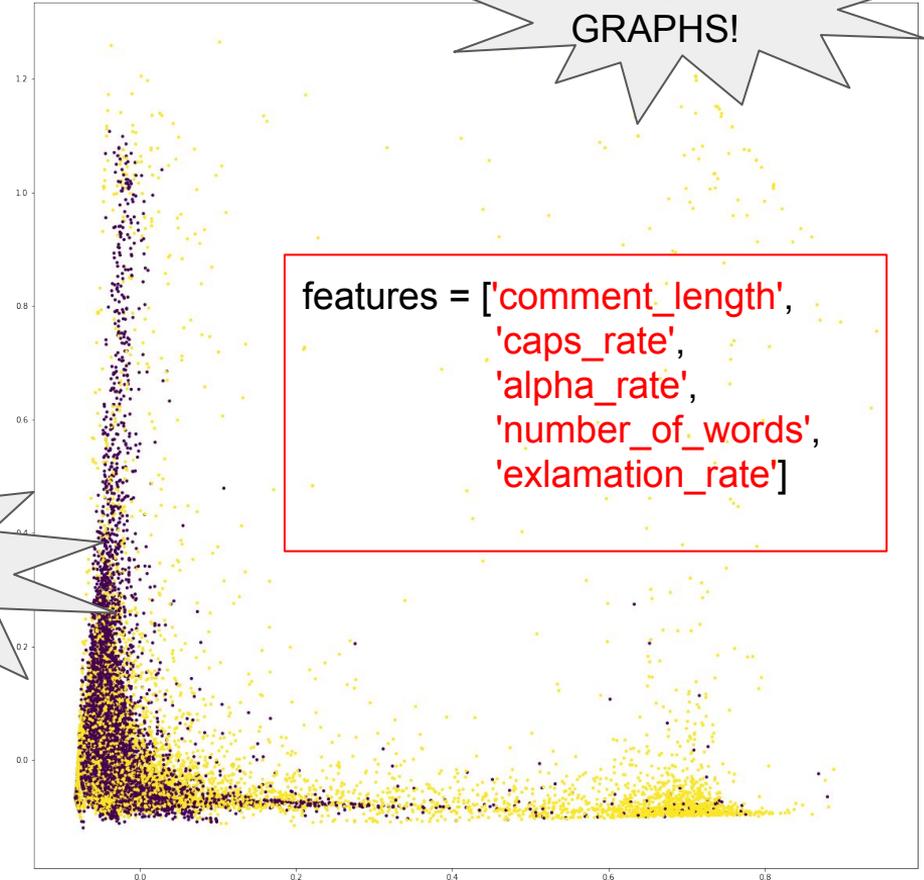
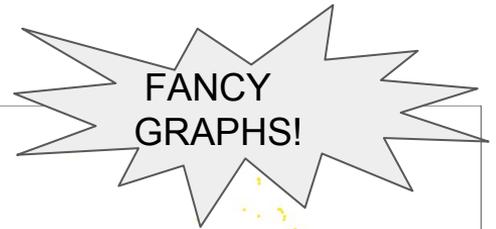


Exchange Name	Crypto		Last	Last (in KRW)	Outgoing Spread vs Bithumb (%)	Incoming Spread vs Bithumb (%)	Last Update	Actions
Bitfinex	BTC	USD	▲ 12,637.00	▲ 13,486,080	-18.95	++	2018-01-20 17:49:00	🗑
Bitfinex	ETH	USD	▲ 1,125.10	▲ 1,200,695	-18.98	++	2018-01-20 17:49:01	🗑
Bithumb	BCH	KRW	2,498,000	2,498,000	0.00	++	2018-01-20 17:49:04	🗑
Bithumb	BTC	KRW	▲ 16,640,000	▲ 16,640,000	0.00	++	2018-01-20 17:49:02	🗑
Bithumb	DASH	KRW	▼ 1,190,000	▼ 1,190,000	0.00	++	2018-01-20 17:49:02	🗑
Bithumb	ETC	KRW	44,170	44,170	0.00	++	2018-01-20 17:49:03	🗑
Bithumb	ETH	KRW	▲ 1,482,000	▲ 1,482,000	0.00	++	2018-01-20 17:49:02	🗑
Bithumb	LTC	KRW	270,400	270,400	0.00	++	2018-01-20 17:49:03	🗑
Bithumb	QTUM	KRW	▼ 55,050	▼ 55,050	0.00	++	2018-01-20 17:49:05	🗑
Bithumb	XMR	KRW	496,000	496,000	0.00	++	2018-01-20 17:49:04	🗑
Bithumb	XRP	KRW	2,057	2,057	0.00	++	2018-01-20 17:49:04	🗑
Bithumb	ZEC	KRW	719,000	719,000	0.00	++	2018-01-20 17:49:05	🗑
Bitstamp	BTC	USD	▲ 12,672.34	▲ 13,523,794	-18.73	++	2018-01-20 17:49:05	🗑
Bloom PHP	BTC	PHP	639,406.76	13,447,171	-19.19	++	2018-01-20 17:49:07	🗑
Bloom PHP	ETH	PHP	56,775.65	1,194,031	-19.43	++	2018-01-20 17:49:08	🗑
Bloom VND	BTC	VND	▲ 286,518,388	▲ 13,463,842	-19.09	++	2018-01-20 17:49:09	🗑
Coinbase	BTC	USD	▲ 12,451.54	▲ 13,288,158	-20.14	++	2018-01-20 17:49:09	🗑
Coinbase	ETH	USD	▲ 1,106.75	▲ 1,181,112	-20.30	++	2018-01-20 17:49:10	🗑
Coinone	BTC	KRW	▲ 16,669,000	▲ 16,669,000	0.17	++	2018-01-20 17:49:10	🗑
Coinone	ETH	KRW	▲ 1,481.400	▲ 1,481.400	-0.04	++	2018-01-20 17:49:10	🗑

**a**

## Kaggle Toxic Comments Detection

id	comment_text	toxic	severe_toxic	obscene	threat	insult	identity_hate
0	0000997932d777bf Explanation\nWhy the edits made under my usern...	0	0	0	0	0	0
1	000103f0d9cfb60f D'aww! He matches this background colour I'm s...	0	0	0	0	0	0
2	000113f07ec002fd Hey man, I'm really not trying to edit war. It...	0	0	0	0	0	0
3	0001b41b1c6bb37e "\nMore\nI can't make any real suggestions on ...	0	0	0	0	0	0
4	0001d958c54c6e35 You, sir, are my hero. Any chance you remember...	0	0	0	0	0	0
5	00025465d4725e87 "\n\nCongratulations from me as well, use the ...	0	0	0	0	0	0
6	0002bcb3da6cb337 COCKSUCKER BEFORE YOU PISS AROUND ON MY WORK	1	1	1	0	1	0
7	00031b1e95af7921 Your vandalism to the Matt Shirvington article...	0	0	0	0	0	0
8	00037261f536c51d Sorry if the word 'nonsense' was offensive to ...	0	0	0	0	0	0
9	00040093b2687caa alignment on this subject and which are contra...	0	0	0	0	0	0
10	0005300084f90edc "\nFair use rationale for Image:Wonju.jpg\n\nT...	0	0	0	0	0	0
11	00054a5e18b50dd4 bbq '\n\nbe a man and lets discuss it-maybe ove...	0	0	0	0	0	0
12	0005c987bdfc9d4b Hey... what is it.. \n@   talk .\nWhat is it.....	1	0	0	0	0	0
13	0006f16e4e9f292e Before you start throwing accusations and warn...	0	0	0	0	0	0
14	00070ef96486d6f9 Oh, and the girl above started her arguments w...	0	0	0	0	0	0
15	0007f8f8ce7eb276d "\n\nJuelz Santanas Age\n\nIn 2002, Juelz Sant...	0	0	0	0	0	0
16	0007e25b2121310b Bye! '\n\nDon't look, come or think of comming ...	1	0	0	0	0	0

**EXCITEMENT!**

features = ['comment\_length',  
'caps\_rate',  
'alpha\_rate',  
'number\_of\_words',  
'exclamation\_rate']