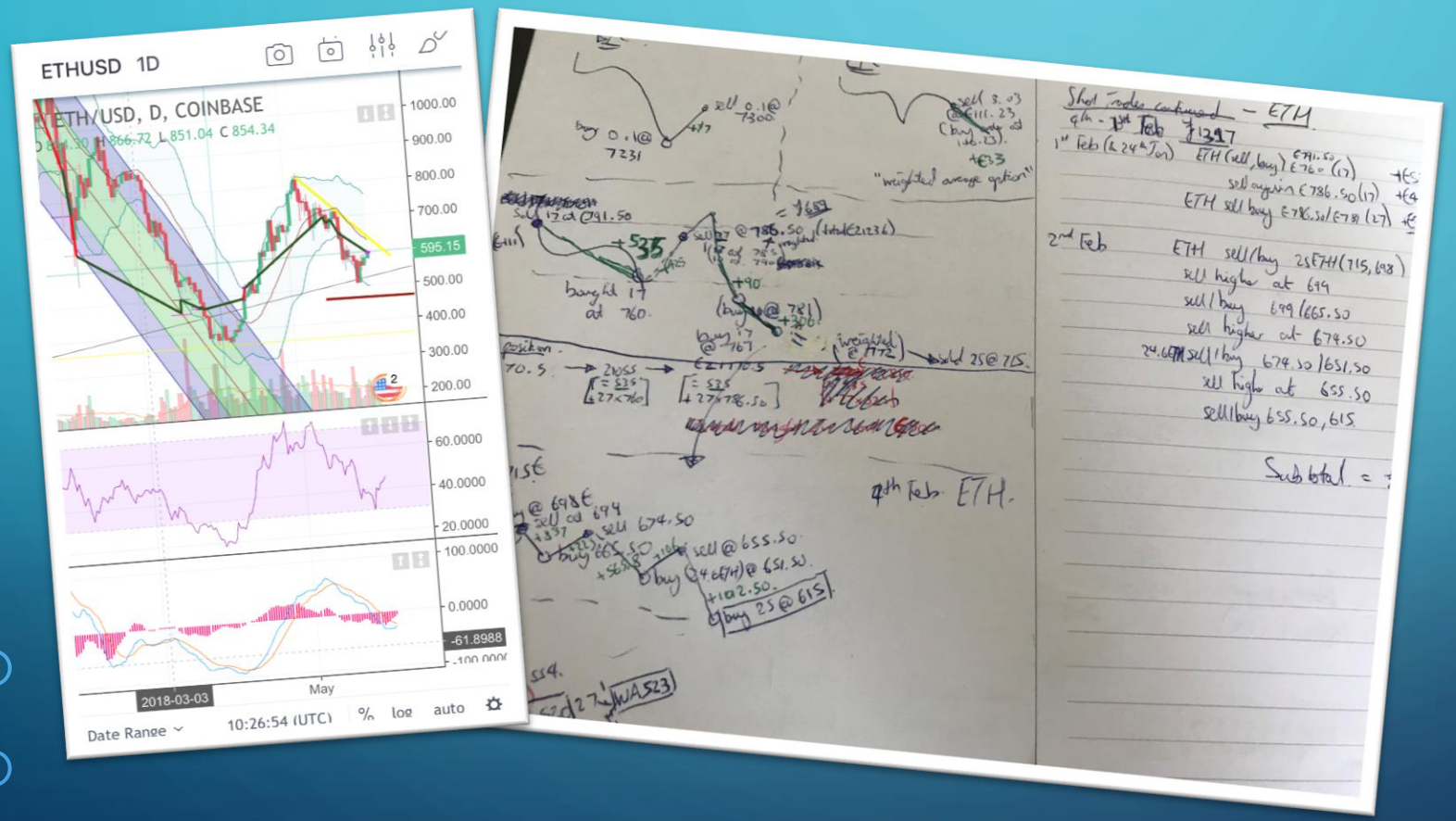
CRYPTOCURRENCY TRADING – TRACKING AND DECISION SUPPORT

TYRONE HUNT

WHAT'S THE PROBLEM?



- Unknown ROI
- Risk exposure not properly understood
- Data in multiple places
- Time consuming

THE OBJECTIVE

SCOPE IS…

✓ Calculate BTC balances, ROI and performance against baseline scenarios

✓ Investigate which common trading signals are significant and in what scenarios

SCOPE IS NOT…

X All cryptocurrencies

X A full trading strategy

X Trade advice! *(pretty sure I need that in for legal reasons)*

FOR EXAMPLE:

Trade Signal	**1h**	**4h**	**1d**	**1w**
RSI				
MACD				
EMA				
VOLUME				
BOLLINGER B.				

Complicated by:

- Combinations
- Variations
- Significance of trigger
- Interpretations
- Non-algorithmic affects

DATA AND ANALYSIS

BTC Price / Volume

	A	B	C
1	1429753354	300	0.01
2	1429766376	200	0.01
3	1429831674	220	0.01
4	1429841387	220	0.01
5	1430156722	205.27	0.0353
6	1430156722	205.27	0.0647
7	1430156880	205.33	0.1
8	1430159153	205.34	0.01
9	1430177802	209.47	0.01426
10	1430192991	209.19	0.0222
11	1430192991	209.11	0.0485
12	1430192991	209.1	0.0293
13	1430193080	209.53	0.099
14	1430220205	209.03	0.1
15	1430252864	204.48	0.01
16	1430261840	204.9	0.3568
17	1430261840	204.87	0.1676

Coinbase / GDAX Trades

	A	B	C	D	E	F	G	H
1	TIMESTAMP	ACCOUNT N/	TYPE	BALANCE	AMOUNT	CURRENCY	EQUIV USD	ID
2	2017-12-14T	BTC	transfer	0.00504563	0.0007	BTC	11.745972	511252853
3	2017-12-14T	EUR	match	25771.876	9.8378	EUR	11.583599	511282382
4	2017-12-14T	BTC	match	0.00504563	-0.0007	BTC	-11.745972	511282379
5	2017-12-14T	EUR	match	25771.876	-9.8343	EUR	-11.579478	511412098
6	2017-12-14T	BTC	match	0.00504563	0.0007	BTC	11.745972	511412097
7	2017-12-19T	BTC	transfer	0.00504563	-0.0007	BTC	-12.90611	539737474
8	2017-12-19T	BTC	transfer	0.00504563	0.01	BTC	184.373	541777655
9	2017-12-19T	EUR	match	25771.876	148.7	EUR	176.035913	541888596
10	2017-12-19T	BTC	match	0.00504563	-0.01	BTC	-184.373	541888585
11	2017-12-19T	EUR	match	25771.876	-147.5	EUR	-174.61531	541977155
12	2017-12-19T	BTC	match	0.00504563	0.01	BTC	184.373	541977154
13	2017-12-19T	EUR	match	25771.876	148	EUR	175.20723	542137862
14	2017-12-19T	BTC	match	0.00504563	-0.01	BTC	-184.373	542137853
15	2017-12-19T	EUR	match	25771.876	-147	EUR	-174.0234	542181434
16	2017-12-19T	BTC	match	0.00504563	0.01	BTC	184.373	542181433

	A	B	C	D	E	F	G	H	I
1	Timestamp	Balance	Amount	Transfer Tot	Transfer Tot	Transfer Fee	Transfer Pay	Transfer ID	Coinbase I
2	05/05/2017 11:06	0.001	0.001						590cbf423
3	05/05/2017 11:10	0.8312	0.8302						590cc0013
4	06/05/2017 09:54	1.65606901	0.82486901						590dffaf7
5	07/05/2017 02:27	1.24046901	-0.4156						590ee865
6	23/05/2017 15:09	1.69496901	0.4545						5924b304
7	23/05/2017 15:23	1.58676901	-0.1082						5924b67e
8	23/05/2017 15:24	1.47856901	-0.1082						5924b688
9	27/05/2017 05:57	1.58676901	0.1082						592977a2
10	28/05/2017 01:17	1.0294059	-0.5573631	985.1	GBP	14.9	GBP Wallet	592a87a4cdf	592a87a6
11	28/05/2017 08:38	1.59203981	0.56263391	984.45	GBP	14.45	GBP Wallet	592aeee49c4	592aeeeb
12	04/06/2017 09:24	1.59392183	0.00188202	5.25	EUR	0.99	EUR Wallet	593434472c5	59343451

1. Clean / classify / merge trade and price data
2. Calculate trade indicators
3. Run statistical inference tests
4. Run back-test simulations based on proposed trade rules

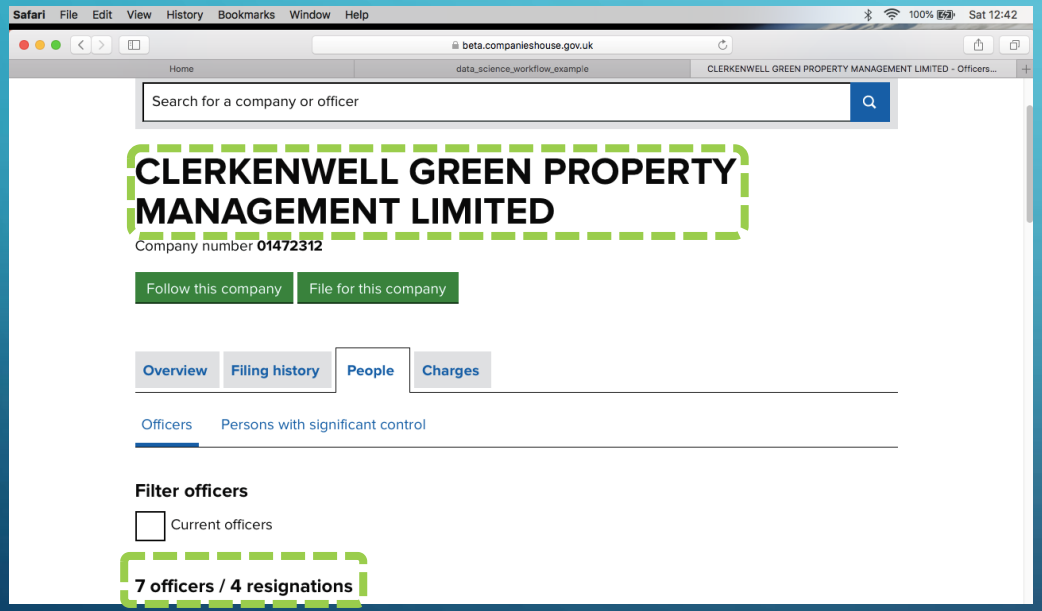
CUSTOMER IDENTIFICATION FOR PROPERTY SERVICES START-UP

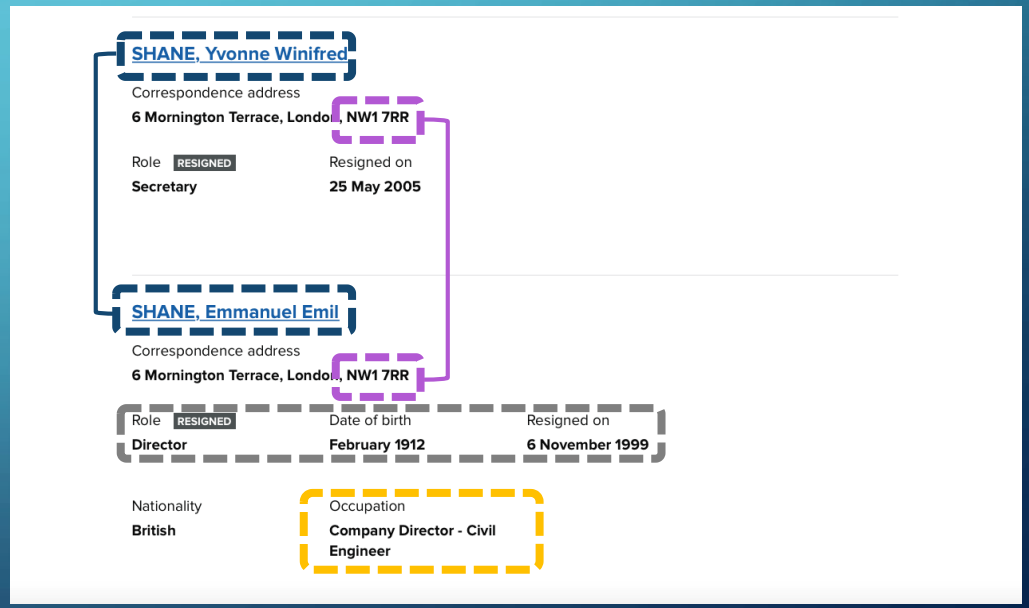
TYRONE HUNT

OVERVIEW

Startup has a value proposition that aims to provide better service to share-of-freehold companies. This means it needs to identify potential customers…

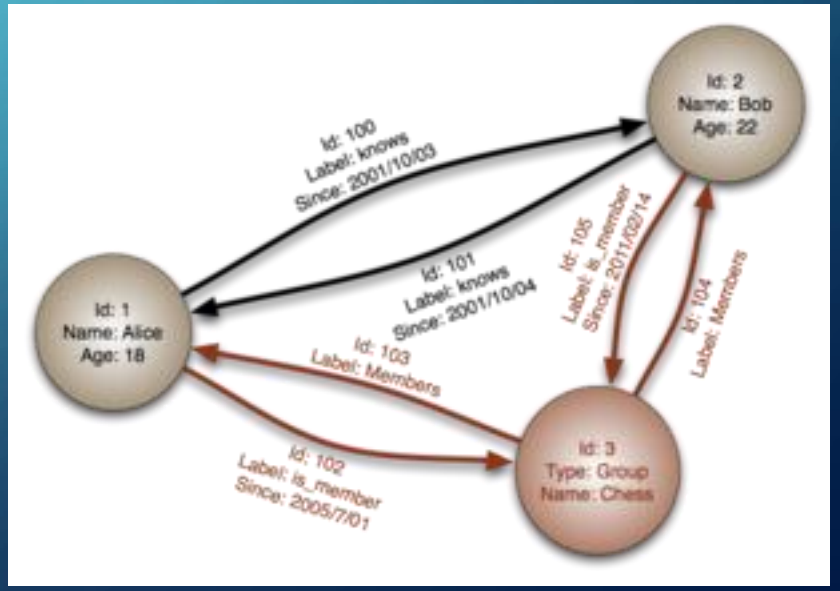
Can we use data science to scrape ‘Companies House’ data and filter according to rules?





DATA CATEGORISATION FOR GRAPHICAL DATABASE START-UP

TYRONE HUNT

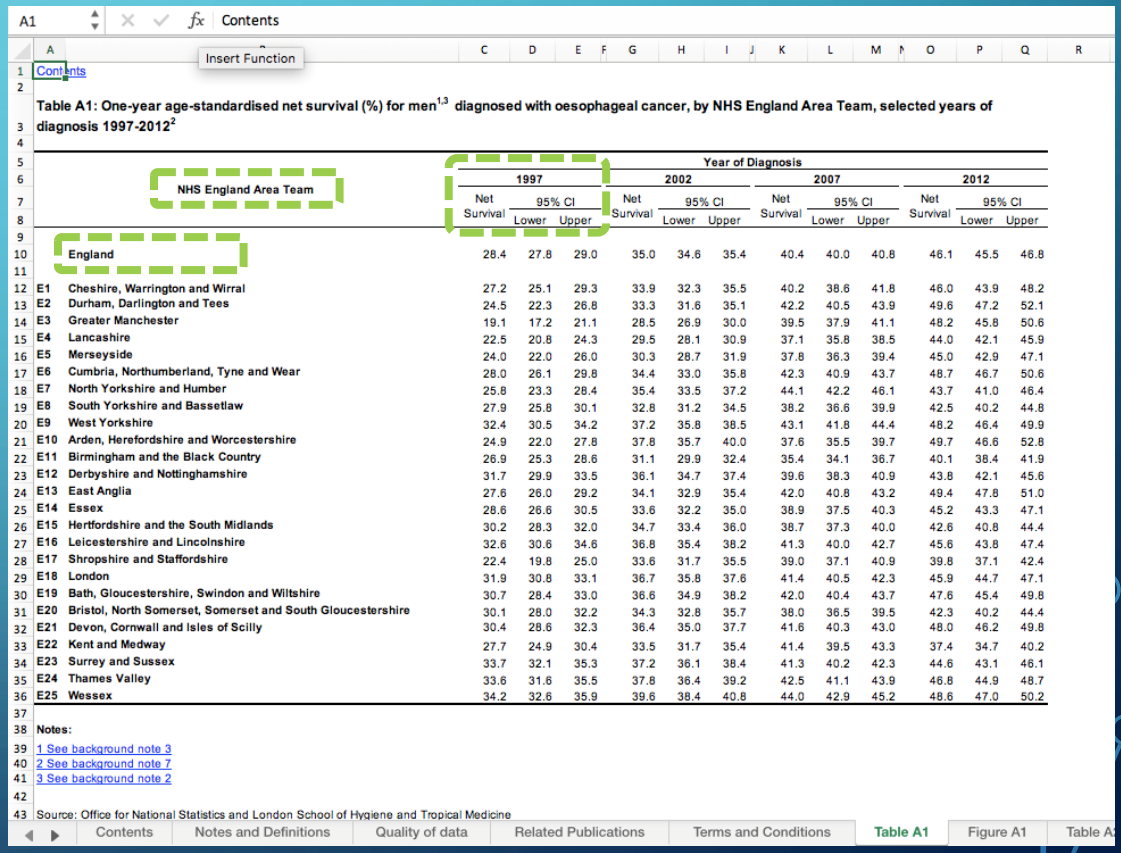


OVERVIEW

Startup has a value proposition that uses machine learning and graph databases to make it easy for journalists and civil servants to quickly discover important information

Can we automatically categorise data to reduce manual cleaning effort required?

ONS - Cancer survival rates by hospital - UK



A1 Contents

Insert Function

Contents

Table A1: One-year age-standardised net survival (%) for men[1,3] diagnosed with oesophageal cancer, by NHS England Area Team, selected years of diagnosis 1997-2012[2]

NHS England Area Team	Year of Diagnosis											
	1997			2002			2007			2012		
	Net Survival	95% CI Lower	95% CI Upper	Net Survival	95% CI Lower	95% CI Upper	Net Survival	95% CI Lower	95% CI Upper	Net Survival	95% CI Lower	95% CI Upper
England	28.4	27.8	29.0	35.0	34.6	35.4	40.4	40.0	40.8	46.1	45.5	46.8
E1 Cheshire, Warrington and Wirral	27.2	25.1	29.3	33.9	32.3	35.5	40.2	38.6	41.8	46.0	43.9	48.2
E2 Durham, Darlington and Tees	24.5	22.3	26.8	33.3	31.6	35.1	42.2	40.5	43.9	49.6	47.2	52.1
E3 Greater Manchester	19.1	17.2	21.1	28.5	26.9	30.0	39.5	37.9	41.1	48.2	45.8	50.6
E4 Lancashire	22.5	20.8	24.3	29.5	28.1	30.9	37.1	35.8	38.5	44.0	42.1	45.9
E5 Merseyside	24.0	22.0	26.0	30.3	28.7	31.9	37.8	36.3	39.4	45.0	42.9	47.1
E6 Cumbria, Northumberland, Tyne and Wear	28.0	26.1	29.8	34.4	33.0	35.8	42.3	40.9	43.7	48.7	46.7	50.6
E7 North Yorkshire and Humber	25.8	23.3	28.4	35.4	33.5	37.2	44.1	42.2	46.1	43.7	41.0	46.4
E8 South Yorkshire and Bassetlaw	27.9	25.8	30.1	32.8	31.2	34.5	38.2	36.6	39.9	42.5	40.2	44.8
E9 West Yorkshire	32.4	30.5	34.2	37.2	35.8	38.5	43.1	41.8	44.4	48.2	46.4	49.9
E10 Arden, Herefordshire and Worcestershire	24.9	22.0	27.8	37.8	35.7	40.0	37.6	35.5	39.7	49.7	46.6	52.8
E11 Birmingham and the Black Country	26.9	25.3	28.6	31.1	29.9	32.4	35.4	34.1	36.7	40.1	38.4	41.9
E12 Derbyshire and Nottinghamshire	31.7	29.9	33.5	36.1	34.7	37.4	39.6	38.3	40.9	43.8	42.1	45.6
E13 East Anglia	27.6	26.0	29.2	34.1	32.9	35.4	42.0	40.8	43.2	49.4	47.8	51.0
E14 Essex	28.6	26.6	30.5	33.6	32.2	35.0	38.9	37.5	40.3	45.2	43.3	47.1
E15 Hertfordshire and the South Midlands	30.2	28.3	32.0	34.7	33.4	36.0	38.7	37.3	40.0	42.6	40.8	44.4
E16 Leicestershire and Lincolnshire	32.6	30.6	34.6	36.8	35.4	38.2	41.3	40.0	42.7	45.6	43.8	47.4
E17 Shropshire and Staffordshire	22.4	19.8	25.0	33.6	31.7	35.5	39.0	37.1	40.9	39.8	37.1	42.4
E18 London	31.9	30.8	33.1	36.7	35.8	37.6	41.4	40.5	42.3	45.9	44.7	47.1
E19 Bath, Gloucestershire, Swindon and Wiltshire	30.7	28.4	33.0	36.6	34.9	38.2	42.0	40.4	43.7	47.6	45.4	49.8
E20 Bristol, North Somerset, Somerset and South Gloucestershire	30.1	28.0	32.2	34.3	32.8	35.7	38.0	36.5	39.5	42.3	40.2	44.4
E21 Devon, Cornwall and Isles of Scilly	30.4	28.6	32.3	36.4	35.0	37.7	41.6	40.3	43.0	48.0	46.2	49.8
E22 Kent and Medway	27.7	24.9	30.4	33.5	31.7	35.4	41.4	39.5	43.3	37.4	34.7	40.2
E23 Surrey and Sussex	33.7	32.1	35.3	37.2	36.1	38.4	41.3	40.2	42.3	44.6	43.1	46.1
E24 Thames Valley	33.6	31.6	35.5	37.8	36.4	39.2	42.5	41.1	43.9	46.8	44.9	48.7
E25 Wessex	34.2	32.6	35.9	39.6	38.4	40.8	44.0	42.9	45.2	48.6	47.0	50.2

Notes:

1 See background note 3
2 See background note 7
3 See background note 2

Source: Office for National Statistics and London School of Hygiene and Tropical Medicine

Contents | Notes and Definitions | Quality of data | Related Publications | Terms and Conditions | Table A1 | Figure A1 | Table A