

Náhled do světa algoritmického obchodování

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Algoritmické obchodování



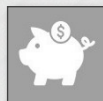
Maximální automatizace všech procesů



Minimalizace lidského faktoru, chyb, psychologie, (stresu?)



Zvýšení přesnosti, rychlosti a možného počtu strategií



Časová, technická a finanční efektivita



Rozsáhlé možnosti v rámci analýzy dat, backtestů, optimalizací

První pokus o algoritmické obchodování

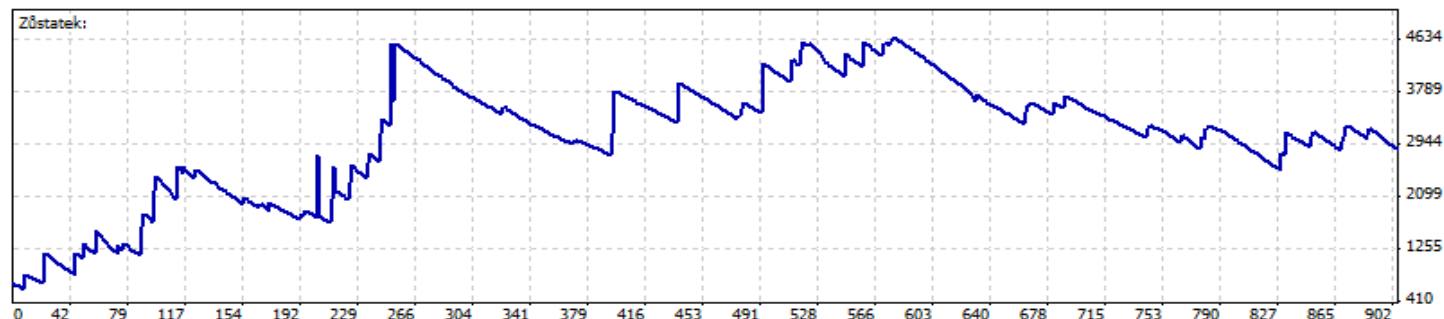
Summary:

Deposit/Withdrawal: 1 930.60
Closed Trade P/L: 729.88
Balance: 2 857.71

Credit Facility: 0.00
Floating P/L: 0.00
Equity: 2 857.71

Margin: 0.00
Free Margin: 2 857.71

Details:



Gross Profit: 14 441.68
Profit Factor: 1.05
Absolute Drawdown: 340.06

Gross Loss: 13 711.80
Expected Payoff: 0.82
Maximal Drawdown: 2 147.28 (65.99%)

Total Net Profit: 729.88
Relative Drawdown: 65.99% (2 147.28)

Total Trades: 894

Short Positions (won %): 444 (9.23%)

Long Positions (won %): 450 (8.67%)

Profit Trades (% of total): 80 (8.95%)

Loss trades (% of total): 814 (91.05%)

Largest

profit trade: 543.03

loss trade: -73.50

Average

profit trade: 180.52

loss trade: -16.84

Maximum

consecutive wins (\$): 5 (400.40)

consecutive losses (\$): 74 (-1 246.16)

Maximal

consecutive profit (count): 1 023.17 (3)

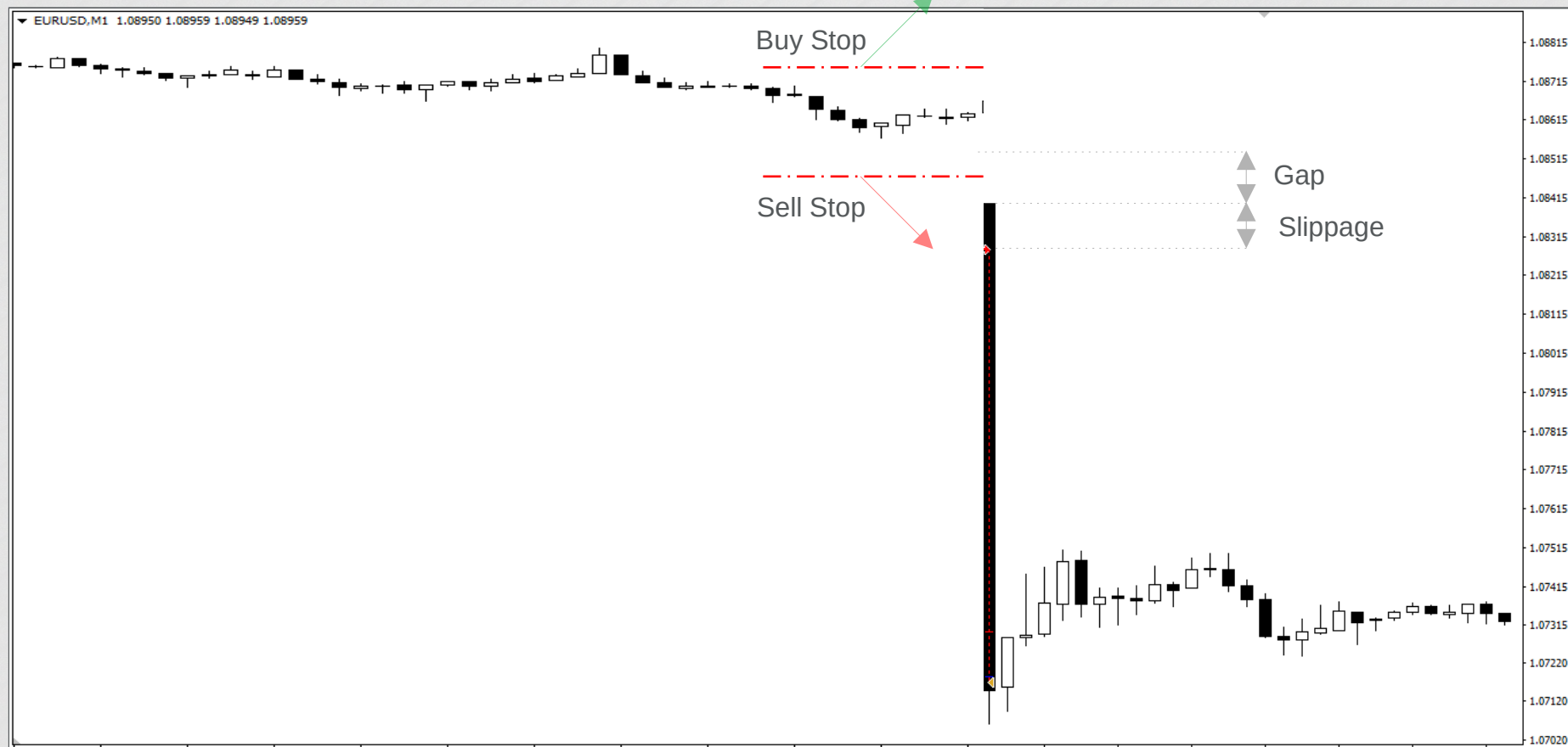
consecutive loss (count): -1 246.16 (74)

Average

consecutive wins: 2

consecutive losses: 16

Data Release Trading



Price Averaging / Martingale Strategie



Limitní příkazy → Pozitivní slippage

Stop Loss ?
Ono se to otočí ...

Zaznamenávání Trade Logs / Data

DateOpen	DateClose	Position	Size	MaxSize	Profit	Scale	MaxPr	MOD	DateMaxSize	DateMaxPr	DateMOD	CloseReason
20170124000000	20170124041040	-1	0.02	0.02	0.21	1	1.32	1.23	20170124040000	20170124012415	20170124033440	Predicted price 1.07595 reached
20170124080000	20170124131438	-1	0.01	0.01	1	1	1.47	1.29	20170124080000	20170124082040	20170124110540	Predicted price 1.07480 reached
20170124160000	20170124181427	-1	0.01	0.01	0.78	1	0.78	0.88	20170124160000	20170124181427	20170124173940	Predicted price 1.07449 reached
20170124200000	20170125013803	1	0.01	0.01	1.09	1	1.09	0.26	20170124200000	20170125013803	20170124200115	Predicted price 1.07343 reached
20170125040000	20170125050010	-1	0.01	0.01	0.1	1	0.1	0.63	20170125040000	20170125050010	20170125042415	Predicted price 1.07304 reached
20170125080000	20170125081705	1	0.01	0.01	1.71	1	1.71	0.05	20170125080000	20170125081705	20170125080000	Predicted price 1.07308 reached
20170125120000	20170125140846	-1	0.01	0.01	1.94	1	1.94	1.79	20170125120000	20170125140846	20170125122640	Predicted price 1.07332 reached
20170125160000	20170125160129	1	0.01	0.01	0.26	1	0.26	0.37	20170125160000	20170125160129	20170125160015	Predicted price 1.07438 reached
20170125200000	20170125200118	-1	0.01	0.01	0.25	1	0.25	0.1	20170125200000	20170125200118	20170125200015	Predicted price 1.07387 reached
20170126000000	20170126045745	-1	0.02	0.02	-0.02	1	0.18	1.33	20170126000000	20170126045745	20170126014230	Predicted price 1.07549 reached
20170126080000	20170126194525	1	0.02	0.02	-0.68	1	1.24	8.8	20170126080000	20170126194525	20170126164440	Predicted price 1.06981 reached
20170126200000	20170126200018	-1	0.01	0.01	0.34	1	0.34	0.05	20170126200000	20170126200018	20170126200000	Predicted price 1.06953 reached
20170127000000	20170127014736	1	0.01	0.01	-0.08	1	0.29	1.13	20170127000000	20170127005746	20170127012540	Predicted price 1.06831 reached
20170127040000	20170127170819	1	0.02	0.02	0.88	1	0.9	1.73	20170127040000	20170127170819	20170127074840	Predicted price 1.06794 reached
20170127120000	20170127125736	-1	0.01	0.01	0.12	1	2.12	0.21	20170127120000	20170127125736	20170127120130	Predicted price 1.06725 reached
20170127160000	20170127175028	-1	0.01	0.01	2.14	1	2.14	0.29	20170127160000	20170127175028	20170127160240	Predicted price 1.06850 reached
20170130000000	20170130061930	-1	0.02	0.02	0.47	1	0.65	2.38	20170130000000	20170130061940	20170130014540	Predicted price 1.07223 reached
20170130080000	20170130160101	1	0.02	0.02	2.08	1	2.2	12.22	20170130080000	20170130160101	20170130130140	Predicted price 1.06916 reached
20170130200000	20170131020018	-1	0.02	0.02	1.7	1	1.7	1.7	20170130200000	20170131020018	20170131000018	Predicted price 1.06924 reached
20170131040000	20170131040321	1	0.01	0.01	0.08	1	0.08	0.19	20170131040000	20170131040321	20170131040130	Predicted price 1.06989 reached
20170131080000	20170131080138	-1	0.01	0.01	0.05	1	0.05	0.52	20170131080000	20170131080138	20170131080040	Predicted price 1.06994 reached
20170131120000	20170131160290	-1	0.02	0.02	-2.33	1	1.43	6.53	20170131120000	20170131172340	20170131160230	Predicted price 1.07918 reached
20170131200000	20170131231808	1	0.02	0.02	1.31	1	1.31	1.81	20170131200000	20170131231808	20170131231800	Predicted price 1.07938 reached
20170131240000	20170131240321	-1	0.01	0.01	1.42	1	1.42	0.6	20170131240000	20170131240321	20170131240300	Predicted price 1.07878 reached
20170131280000	20170131280104	1	0.01	0.01	1.44	1	1.44	2.76	20170131280000	20170131280104	20170131280100	Predicted price 1.07727 reached
20170131320000	20170131320018	-1	0.04	0.04	-5.39	1	1.36	14.83	20170131320000	20170131320018	20170131320010	Predicted price 1.08058 reached
20170131360000	20170131360101	1	0.02	0.02	1.08	1	1.56	1.8	20170131360000	20170131360101	20170131360100	Predicted price 1.07692 reached
20170131400000	20170131400101	-1	0.01	0.01	0.56	1	0.56	0.69	20170131400000	20170131400101	20170131400100	Predicted price 1.07610 reached
20170131440000	20170131440101	1	0.01	0.01	0.12	1	0.12	0.32	20170131440000	20170131440101	20170131440100	Predicted price 1.07592 reached
20170131480000	20170131480101	1	0.01	0.01	2.26	1	2.26	1.96	20170131480000	20170131480101	20170131480100	Predicted price 1.07536 reached
20170131520000	20170131520101	-1	0.01	0.01	2.85	1	2.92	0.61	20170131520000	20170131520101	20170131520100	Predicted price 1.07601 reached
20170131560000	20170131560101	-1	0.01	0.01	0.38	1	0.76	0.68	20170131560000	20170131560101	20170131560100	Predicted price 1.07787 reached
20170131600000	20170131600101	-1	0.01	0.01	0.13	1	0.13	0.13	20170131600000	20170131600101	20170131600100	Predicted price 1.07813 reached
20170131640000	20170131640101	1	0.02	0.02	-1.67	1	0.53	7.81	20170131640000	20170131640101	20170131640100	Predicted price 1.07365 reached
20170131680000	20170131680101	-1	0.01	0.01	0.76	1	0.76	0.82	20170131680000	20170131680101	20170131680100	Predicted price 1.07399 reached
20170131720000	20170131720101	1	0.03	0.03	-2.82	1	0.54	7.82	20170131720000	20170131720101	20170131720100	Predicted price 1.06781 reached
20170131760000	20170131760101	-1	0.02	0.02	1.44	1	1.44	2.1	20170131760000	20170131760101	20170131760100	Predicted price 1.06839 reached
20170131800000	20170131800101	1	0.01	0.01	0.99	1	0.99	1.16	20170131800000	20170131800101	20170131800100	Predicted price 1.06891 reached
20170131840000	20170131840101	-1	0.01	0.01	0.89	1	0.89	0.09	20170131840000	20170131840101	20170131840100	Predicted price 1.06801 reached
20170131880000	20170131880101	1	0.02	0.02	1.98	1	1.98	1.81	20170131880000	20170131880101	20170131880100	Predicted price 1.06638 reached
20170131920000	20170131920101	-1	0.01	0.01	1.94	1	2.81	0.72	20170131920000	20170131920101	20170131920100	Predicted price 1.06878 reached
20170131960000	20170131960101	-1	0.01	0.01	0.31	1	0.31	0.51	20170131960000	20170131960101	20170131960100	Predicted price 1.06880 reached
20170132000000	20170132000101	1	0.02	0.02	0.55	1	0.55	1.99	20170132000000	20170132000101	20170132000100	Predicted price 1.06876 reached
20170132040000	20170132040101	-1	0.01	0.01	-0.03	1	0.04	0.73	20170132040000	20170132040101	20170132040100	Predicted price 1.06810 reached
20170132080000	20170132080101	1	0.03	0.03	0.18	1	0.66	1.68	20170132080000	20170132080101	20170132080100	Predicted price 1.06614 reached
20170132120000	20170132120101	-1	0.01	0.01	0.46	1	0.46	0.11	20170132120000	20170132120101	20170132120100	Predicted price 1.06577 reached
20170132160000	20170132160101	1	0.03	0.03	2.33	1	2.33	6.53	20170132160000	20170132160101	20170132160100	Predicted price 1.06429 reached
20170132200000	20170132200101	1	0.01	0.01	0.53	1	0.79	0.72	20170132200000	20170132200101	20170132200100	Predicted price 1.06540 reached
20170132240000	20170132240101	-1	0.01	0.01	0.61	1	0.84	1.62	20170132240000	20170132240101	20170132240100	Predicted price 1.06368 reached
20170132280000	20170132280101	1	0.03	0.03	0.46	1	0.46	1.96	20170132280000	20170132280101	20170132280100	Predicted price 1.06028 reached
20170132320000	20170132320101	-1	0.02	0.02	-0.55	1	0	5.63	20170132320000	20170132320101	20170132320100	Predicted price 1.06086 reached
20170132360000	20170132360101	1	0.01	0.01	1	1	1	0.25	20170132360000	20170132360101	20170132360100	Predicted price 1.06186 reached
20170132400000	20170132400101	1	0.01	0.01	1.51	1	1.68	0.33	20170132400000	20170132400101	20170132400100	Predicted price 1.05791 reached
20170132440000	20170132440101	-1	0.01	0.01	0.35	1	0.35	0.07	20170132440000	20170132440101	20170132440100	Predicted price 1.05753 reached
20170132480000	20170132480101	1	0.01	0.01	1	1	1	0.33	20170132480000	20170132480101	20170132480100	Predicted price 1.05735 reached
20170132520000	20170132520101	-1	0.02	0.02	-1.23	1	0	8.93	20170132520000	20170132520101	20170132520100	Predicted price 1.05597 reached
20170132560000	20170132560101	-1	0.04	0.04	-6.61	1	0.05	11.93	20170132560000	20170132560101	20170132560100	Predicted price 1.06116 reached
20170132600000	20170132600101	1	0.01	0.01	0.14	1	0.14	0.17	20170132600000	20170132600101	20170132600100	Predicted price 1.06134 reached
20170132640000	20170132640101	-1	0.03	0.03	-1.43	1	0.62	5.78	20170132640000	20170132640101	20170132640100	Predicted price 1.06641 reached
20170132680000	20170132680101	-1	0.01	0.01	0.47	1	0.47	0.19	20170132680000	20170132680101	20170132680100	Predicted price 1.06694 reached
20170132720000	20170132720101	1	0.02	0.02	0.82	1	1.28	1.84	20170132720000	20170132720101	20170132720100	Predicted price 1.06554 reached
20170132760000	20170132760101	1	0.02	0.02	1.53	1	1.53	2.19	20170132760000	20170132760101	20170132760100	Predicted price 1.06540 reached
20170132800000	20170132800101	-1	0.01	0.01	1.13	1	1.13	0.21	20170132800000	20170132800101	20170132800100	Predicted price 1.06138 reached
20170132840000	20170132840101	1	0.01	0.01	0.57	1	0.57	0.19	20170132840000	20170132840101	20170132840100	Predicted price 1.06191 reached
20170132880000	20170132880101	-1	0.01	0.01	0.23	1	0.32	1.39	20170132880000	20170132880101	20170132880100	Predicted price 1.06142 reached

Date Open & Date Close → Délka obchodu, obchodní hodiny

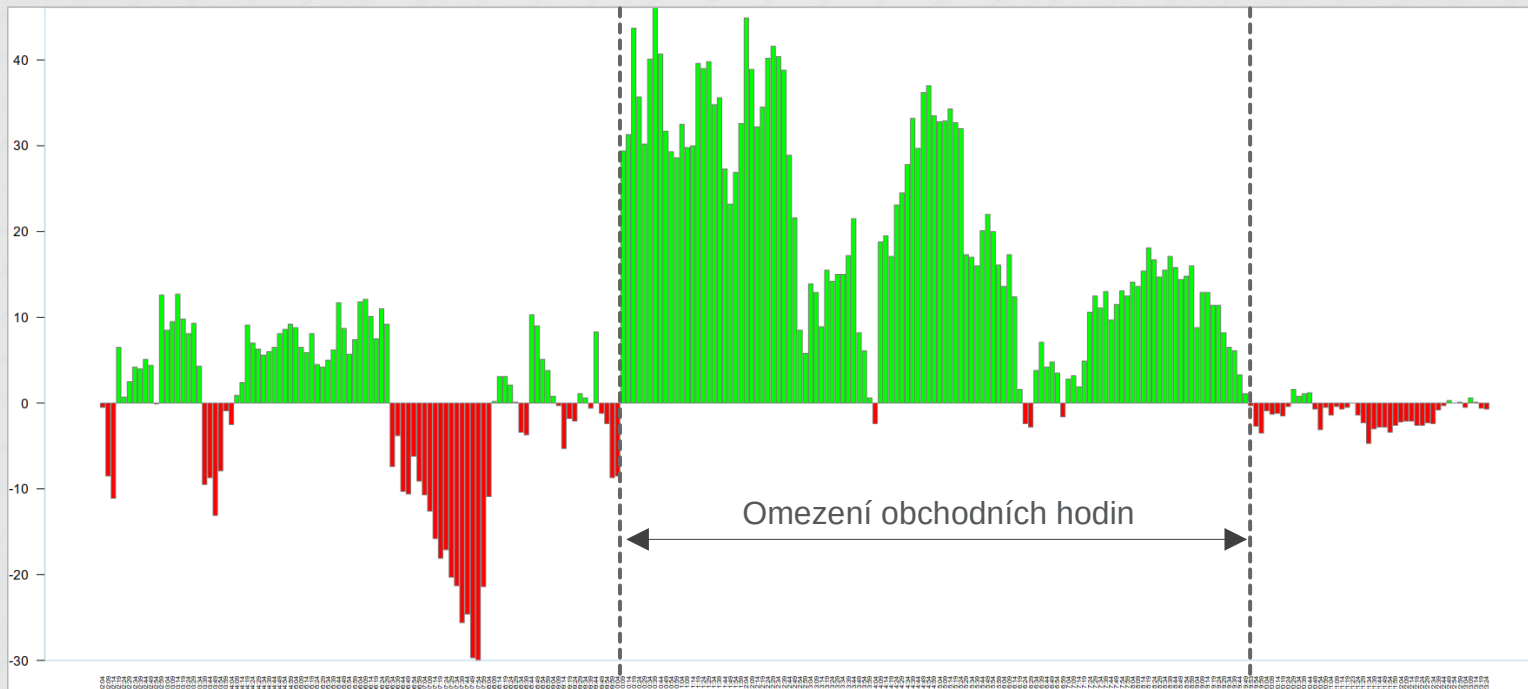
Size & Max Size → Limitace maximální velikosti

Maximalní Drawdown & Profit → Úprava SL / TP

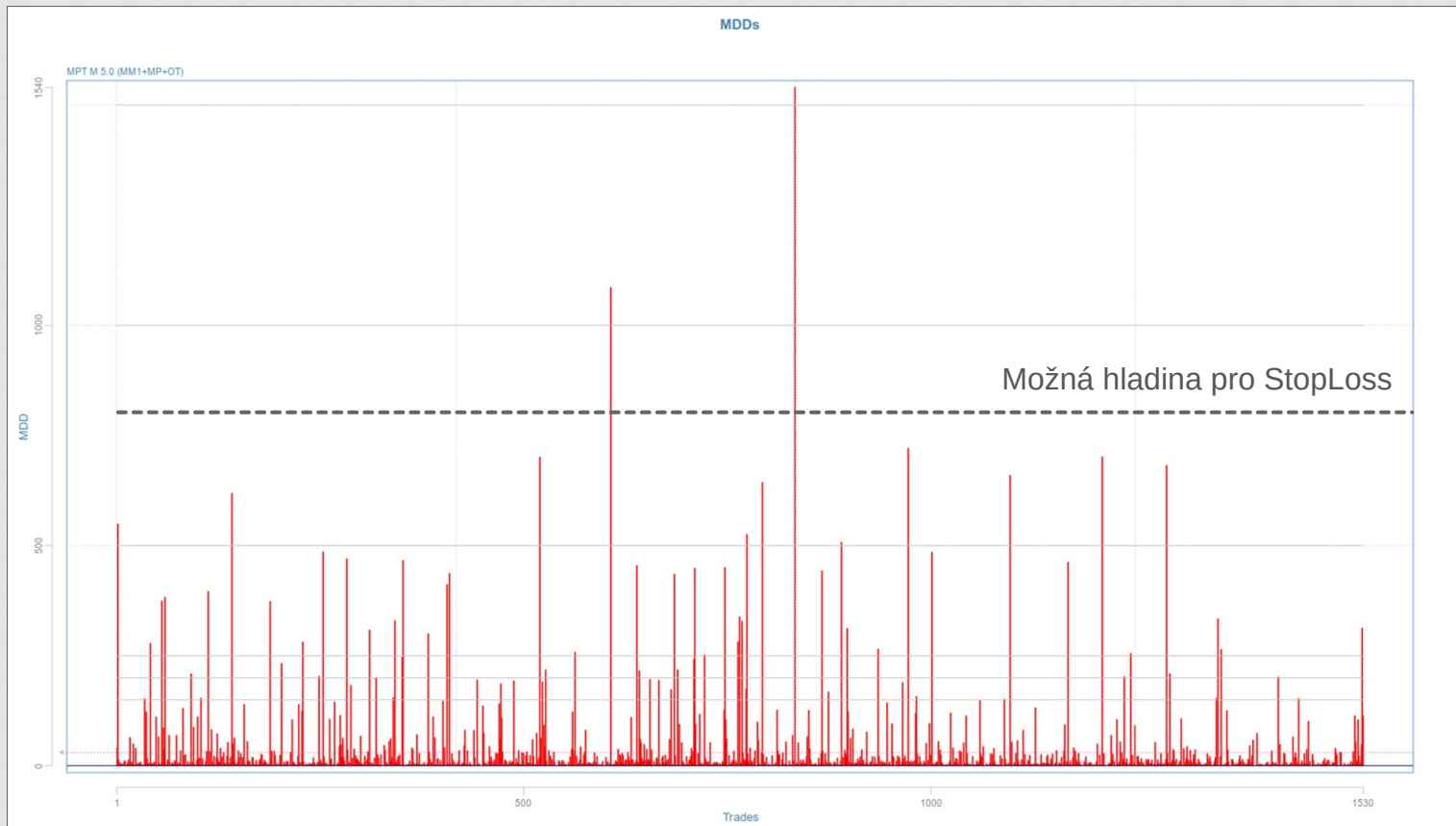
Long / Short rozdělení strategie

Stejný formát dat backtest / reálný chod → porovnání

Datová Analýza – Distribuce profitů dle minut



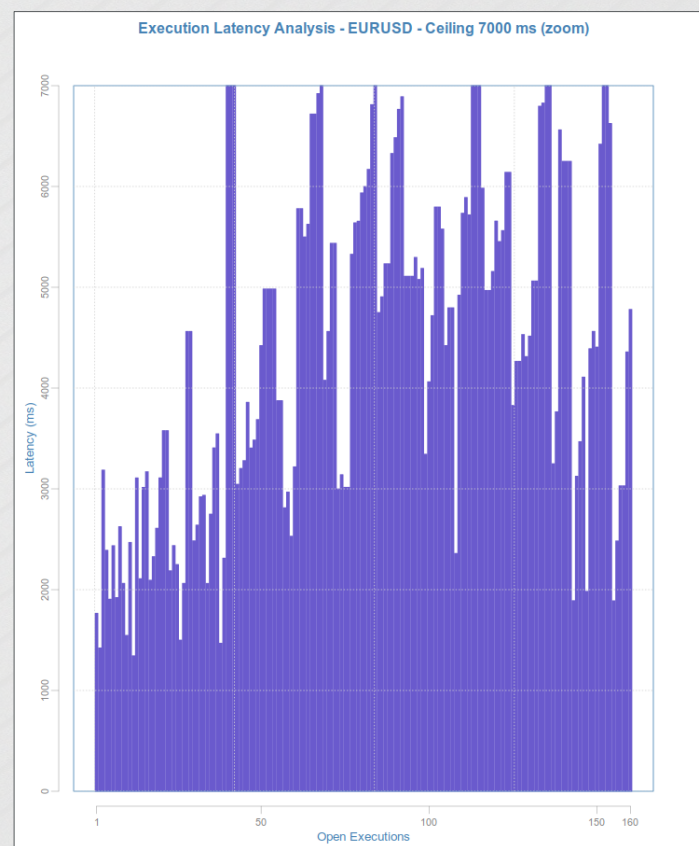
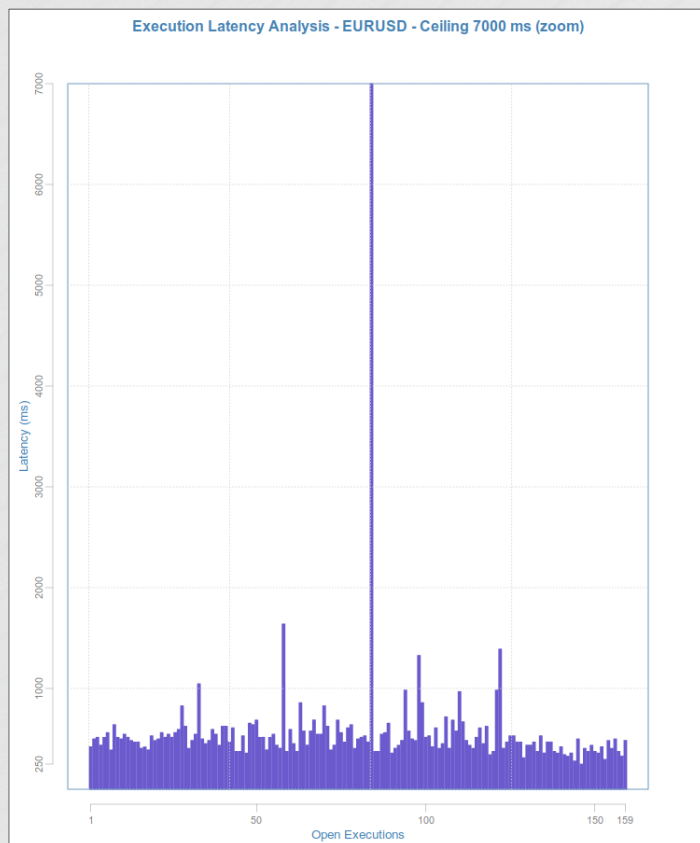
Datová Analýza - Drawdowns



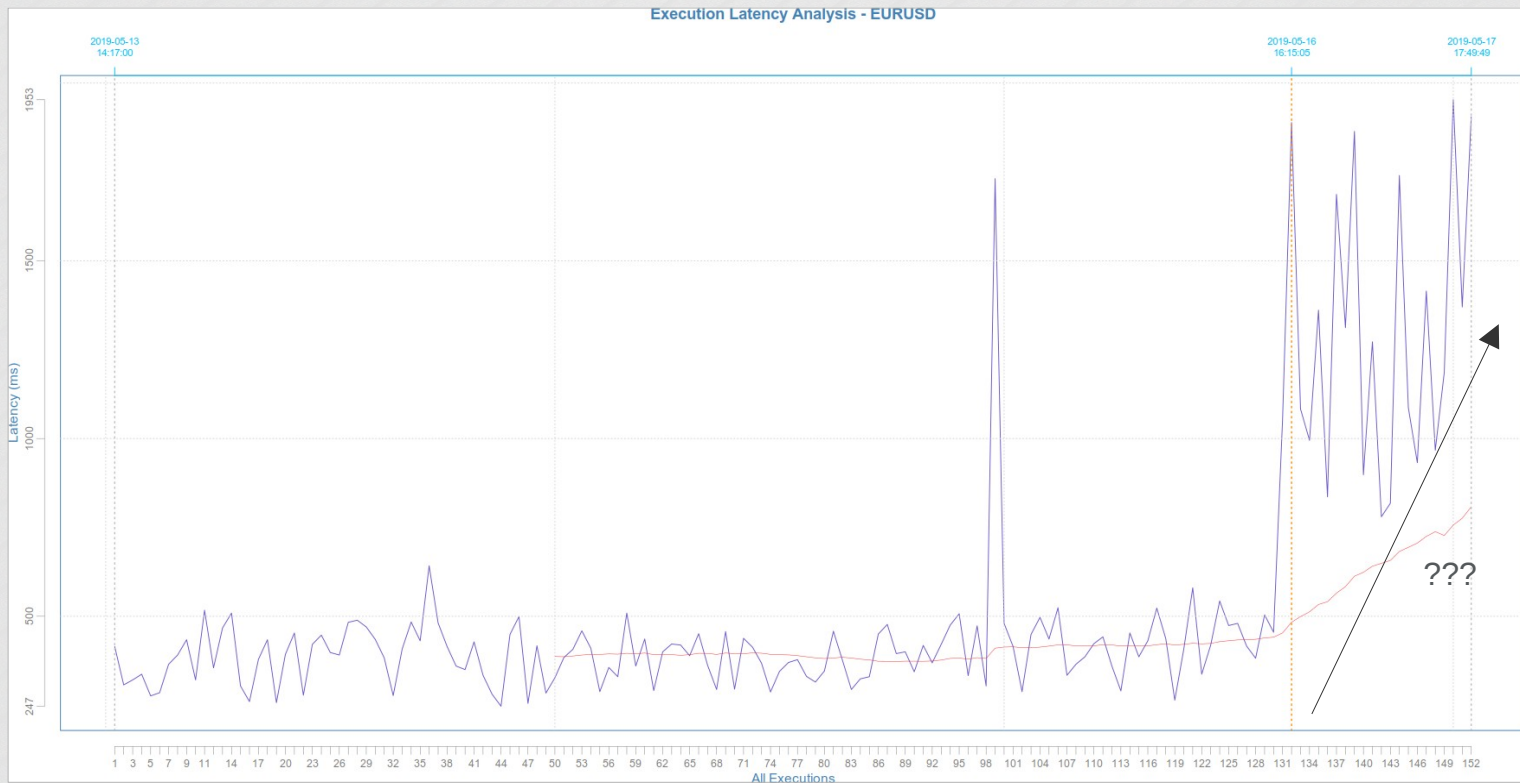
Datová Analýza – Virtual SL



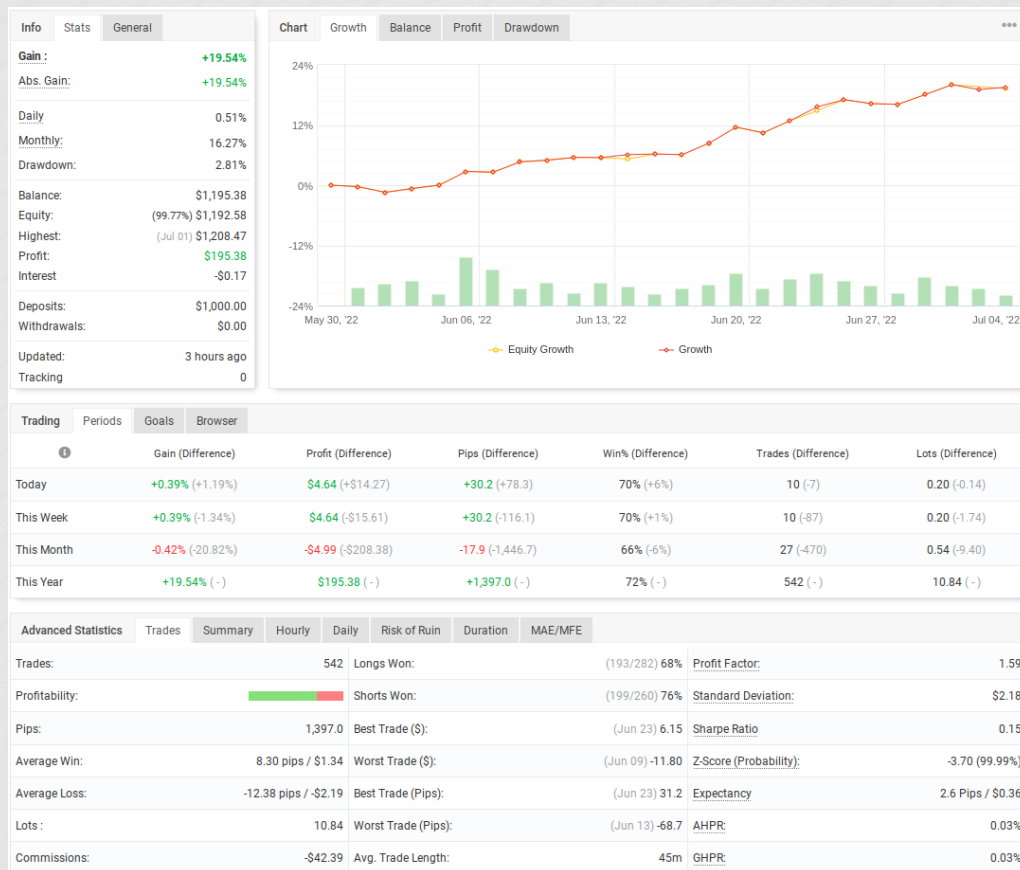
Datová Analýza - Latence



Datová Analýza – Latence



Volně dostupné analytické nástroje - MyFXBook



Informační systém - Real-time tracking a analýza strategií



Trade Stats

2017 2018 2019 2020

January February March April May June July August September October November December

M1 H1

dd / mm / yyyy - dd / mm / yyyy

Apply

Mon Tue Wed Thu Fri

AUDCAD AUDJPY AUDNZD AUDUSD EURAUD EURGBP EURUSD NZDCAD NZDUSD USDJPY

Long Short

A1 A2 FC1 M1 M1-O1 M2 M2-O1 M3 M3-O1 M4 M4-O1 M5 M5-O1 O1 R1 R1-O1 R2-O1 R3-O1 S1

S2 TM1 TN1 TN2 TN3 7301060 7301712 1200024676 2096570141

Real Market Balancer

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

Period: 2018-01-01 - 2018-12-31 (Trade Close Date)

Summary Daily Instruments Days of Week Entry Hours Trading Account

Summary Stats

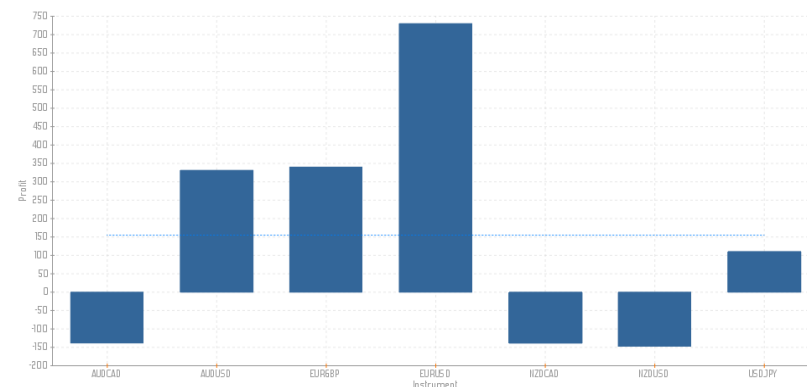
Σ	Number								Metrics			Total			
	Trades		Flat		Win		Loss		PPS	KC ⁽²⁾	PF ⁽¹⁾	Size	Gain	Loss	Profit
Long	49.96%	1119	0.18%	2	91.60%	1025	8.22%	92	10.43	16.54	1.88	105.81	2357.79	-1254.40	1103.39
Short	50.04%	1121	0%	0	88.94%	997	11.06%	124	-0.17	15.14	0.99	107.82	2023.45	-2041.43	-17.98
All		2240	0.09%	2	90.27%	2022	9.64%	216	5.08	15.65	1.33	213.63	4381.24	-3295.83	1085.41

Σ	Average						Maximum		MDD ⁽³⁾			Probability		
	Size	Gain	Loss	Profit	Daily	MDD	Gain	Loss	Trade	Balance	Equity	Win	Loss	WLR
Long	0.09	2.30	-13.63	0.99	11.49	6.27	42.98	-133.51	297.67			91.60%	8.22%	11.14
Short	0.10	2.03	-16.46	-0.02	-0.19	6.75	43.46	-337.35	393.11			88.94%	11.06%	8.04
All	0.10	2.17	-15.26	0.48	11.31	6.51	43.46	-337.35	393.11	394.68	501.32	90.27%	9.64%	9.36

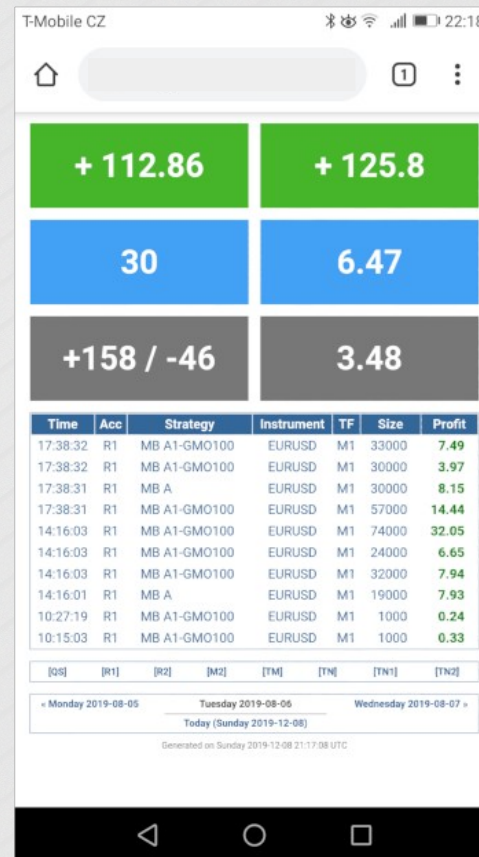
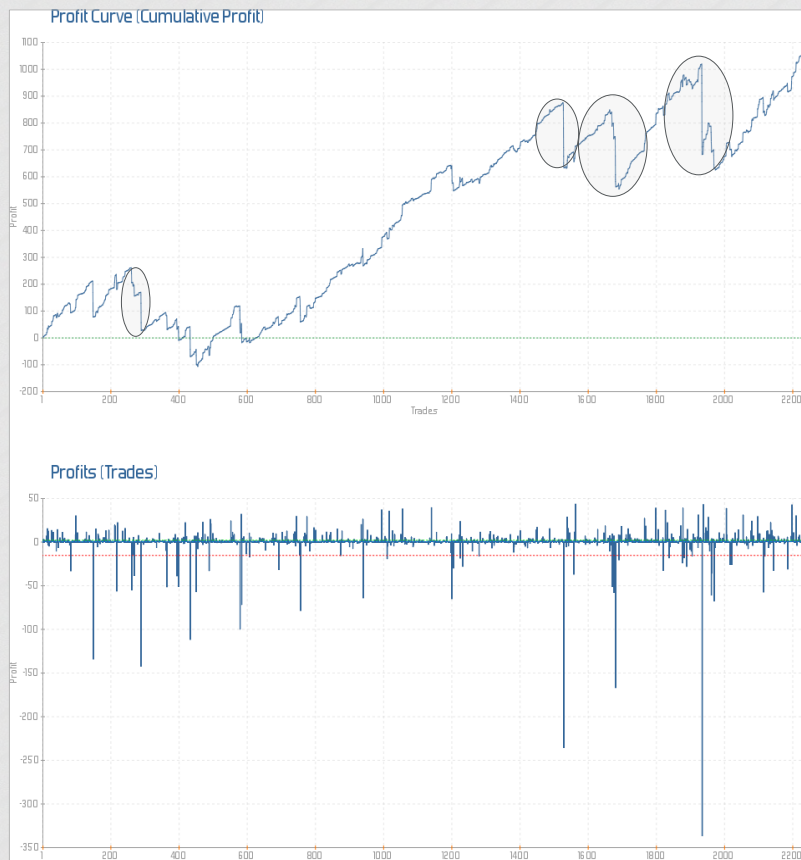
Instrument Stats

Σ	Number				Average			Maximum		Probability			Metrics			Total		
	Trades	Flat	Win	Loss	Gain	Loss	Profit	Gain	Loss	Win	Loss	WLR	MDD [1]	PPS	PF	Gain	Loss	Profit
AUDCAD	430	0	394	36	2.39	-30.06	-0.32	43.46	-236.29	91.63%	8.37%	10.94	393.11	-1.81	0.87	943.55	-1082.12	-138.55
AUDUSD	469	0	426	43	1.52	-7.31	0.71	17.97	-64.73	90.83%	9.17%	9.91	111.69	11.77	2.05	645.42	-314.36	331.06
EURGBP	362	0	339	23	3.08	-30.59	0.94	39.41	-337.35	93.65%	6.35%	14.74	355.09	8.46	1.48	1043.41	-703.52	339.89
EURUSD	305	0	284	21	4.23	-22.48	2.39	42.98	-99.73	93.11%	6.89%	13.52	297.67	19.39	2.55	1201.96	-472.08	729.88
NZDCAD	342	2	289	51	0.86	-7.57	-0.40	11.45	-78.37	84.50%	14.91%	5.67	108.90	-7.10	0.64	248.22	-386.30	-138.08
NZDUSD	168	0	147	21	0.83	-12.89	-0.89	3.29	-166.76	87.50%	12.50%	7.00	187.26	-27.26	0.45	121.46	-270.59	-149.13
USDJPY	164	0	143	21	1.24	-3.18	0.67	11.31	-28.05	87.20%	12.80%	6.81	71.13	17.92	2.65	177.22	-66.86	110.36
All	2240	2	2022	216	2.17	-15.26	0.48	43.46	-337.35	90.27%	9.64%	9.36	393.11	5.08	1.33	4381.24	-3295.83	1085.41

Profits per Instrument



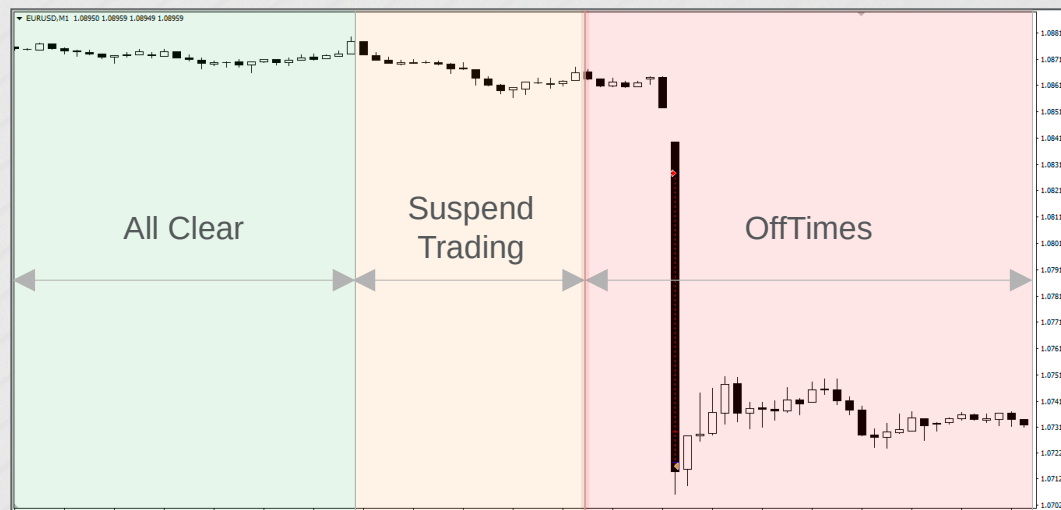
Informační systém - Real-time tracking strategií



OffTimes – Systematická eliminace fundamentů



Event	SuspendTrading	ForceClose	AllClear	Name	Count	Notes
2021-05-24 14:30:00	2021-05-24 14:00:00	2021-05-24 14:25:00	2021-05-24 18:30:00	BoE Gov Bailey Speaks	GBP	FF
2021-05-26 02:00:00	2021-05-26 01:30:00	2021-05-26 01:55:00	2021-05-26 06:00:00	RBNZ Rate Statement	NZD	
2021-05-26 02:00:00	2021-05-26 01:30:00	2021-05-26 01:55:00	2021-05-26 06:00:00	RBNZ Interest Rate Decision	NZD	
2021-05-26 02:00:00	2021-05-26 01:30:00	2021-05-26 01:55:00	2021-05-26 06:00:00	Monetary Policy Statement	NZD	
2021-05-26 03:00:00	2021-05-26 02:30:00	2021-05-26 02:55:00	2021-05-26 07:00:00	RBNZ Press Conference	NZD	
2021-05-27 12:30:00	2021-05-27 12:00:00	2021-05-27 12:25:00	2021-05-27 16:30:00	Durable Goods Orders	USD	
2021-05-27 12:30:00	2021-05-27 12:00:00	2021-05-27 12:25:00	2021-05-27 16:30:00	Nondefense Capital Goods Orders ex Aircraft	USD	
2021-05-27 12:30:00	2021-05-27 12:00:00	2021-05-27 12:25:00	2021-05-27 16:30:00	Gross Domestic Product Annualized	USD	
2021-06-01 04:30:00	2021-06-01 04:00:00	2021-06-01 04:25:00	2021-06-01 08:30:00	RBA Interest Rate Decision	AUD	
2021-06-01 04:30:00	2021-06-01 04:00:00	2021-06-01 04:25:00	2021-06-01 08:30:00	RBA Rate Statement	AUD	
2021-06-01 07:00:00	2021-06-01 06:30:00	2021-06-01 06:55:00	2021-06-01 11:00:00	Gross Domestic Product s.a. (QoQ)	CHF	
2021-06-01 09:00:00	2021-06-01 08:30:00	2021-06-01 08:55:00	2021-06-01 13:00:00	Consumer Price Index - Core (YoY)	EUR	
2021-06-01 09:00:00	2021-06-01 08:30:00	2021-06-01 08:55:00	2021-06-01 13:00:00	Consumer Price Index (YoY)	EUR	
2021-06-01 12:30:00	2021-06-01 12:00:00	2021-06-01 12:25:00	2021-06-01 16:30:00	Gross Domestic Product Annualized (QoQ)	CAD	
2021-06-01 14:00:00	2021-06-01 13:30:00	2021-06-01 13:55:00	2021-06-01 18:00:00	ISM Manufacturing PMI	USD	
2021-06-01 15:00:00	2021-06-01 14:30:00	2021-06-01 14:55:00	2021-06-01 19:00:00	BoE's Governor Bailey speech	GBP	
2021-06-02 01:30:00	2021-06-02 01:00:00	2021-06-02 01:25:00	2021-06-02 05:30:00	Gross Domestic Product (QoQ)	AUD	
2021-06-03 01:30:00	2021-06-03 01:00:00	2021-06-03 01:25:00	2021-06-03 05:30:00	Trade Balance (MoM)	AUD	
2021-06-03 01:30:00	2021-06-03 01:00:00	2021-06-03 01:25:00	2021-06-03 05:30:00	Retail Sales s.a. (MoM)	AUD	
2021-06-03 12:15:00	2021-06-03 11:45:00	2021-06-03 12:10:00	2021-06-03 16:15:00	ADP Employment Change	USD	
2021-06-03 14:00:00	2021-06-03 13:30:00	2021-06-03 13:55:00	2021-06-03 18:00:00	ISM Services PMI	USD	
2021-06-03 15:30:00	2021-06-03 15:00:00	2021-06-03 15:25:00	2021-06-03 19:30:00	BoE Monetary Policy Report Hearings	GBP	
2021-06-03 16:00:00	2021-06-03 15:30:00	2021-06-03 15:55:00	2021-06-03 20:00:00	BoE's Governor Bailey speech	GBP	
2021-06-04 11:00:00	2021-06-04 10:30:00	2021-06-04 10:55:00	2021-06-04 15:00:00	Fed Chair Powell Speaks	USD	
2021-06-04 12:30:00	2021-06-04 12:00:00	2021-06-04 12:25:00	2021-06-04 16:30:00	Nonfarm Payrolls	USD	
2021-06-04 12:30:00	2021-06-04 12:00:00	2021-06-04 12:25:00	2021-06-04 16:30:00	Unemployment Rate	CAD	
2021-06-04 12:30:00	2021-06-04 12:00:00	2021-06-04 12:25:00	2021-06-04 16:30:00	Net Change in Employment	CAD	
2021-06-07 23:30:00	2021-06-07 23:20:00	2021-06-07 23:45:00	2021-06-08 03:50:00	Gross Domestic Product (QoQ)	JPY	
2021-06-09 14:00:00	2021-06-09 13:30:00	2021-06-09 13:55:00	2021-06-09 18:00:00	BoC Rate Statement	CAD	
2021-06-09 14:00:00	2021-06-09 13:30:00	2021-06-09 13:55:00	2021-06-09 18:00:00	BoC Interest Rate Decision	CAD	
2021-06-10 11:45:00	2021-06-10 11:15:00	2021-06-10 11:40:00	2021-06-10 15:45:00	ECB Interest Rate Decision	EUR	
2021-06-10 11:45:00	2021-06-10 11:15:00	2021-06-10 11:40:00	2021-06-10 15:45:00	ECB Deposit Rate Decision	EUR	
2021-06-10 12:30:00	2021-06-10 12:00:00	2021-06-10 12:25:00	2021-06-10 16:30:00	Consumer Price Index ex Food & Energy (MoM)	USD	
2021-06-10 12:30:00	2021-06-10 12:00:00	2021-06-10 12:25:00	2021-06-10 16:30:00	Consumer Price Index ex Food & Energy (YoY)	USD	
2021-06-10 12:30:00	2021-06-10 12:00:00	2021-06-10 12:25:00	2021-06-10 16:30:00	ECB Monetary Policy Statement and Press Conference	EUR	
2021-06-11 08:30:00	2021-06-11 08:00:00	2021-06-11 08:25:00	2021-06-11 12:30:00	BoE Gov Bailey Speaks	GBP	
2021-06-15 01:30:00	2021-06-15 01:00:00	2021-06-15 01:25:00	2021-06-15 05:30:00	RBA Meeting Minutes	AUD	FF
2021-06-15 06:00:00	2021-06-15 05:30:00	2021-06-15 05:55:00	2021-06-15 10:00:00	Claimant Count Change	GBP	
2021-06-15 06:00:00	2021-06-15 05:30:00	2021-06-15 05:55:00	2021-06-15 10:00:00	Unemployment Rate (3M)	CAD	



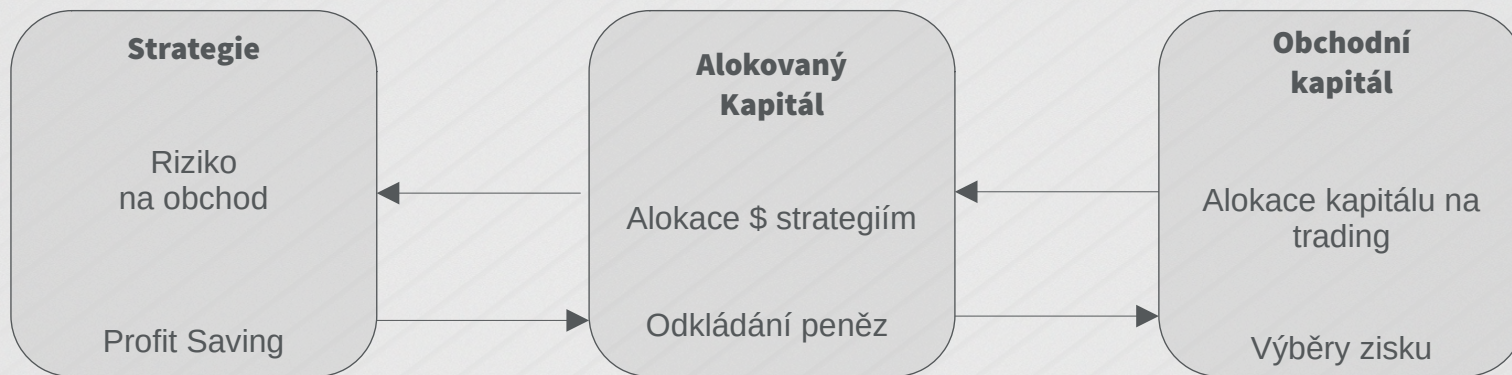
Force
Close

Komplexní metody MM



Buy Low & Sell High

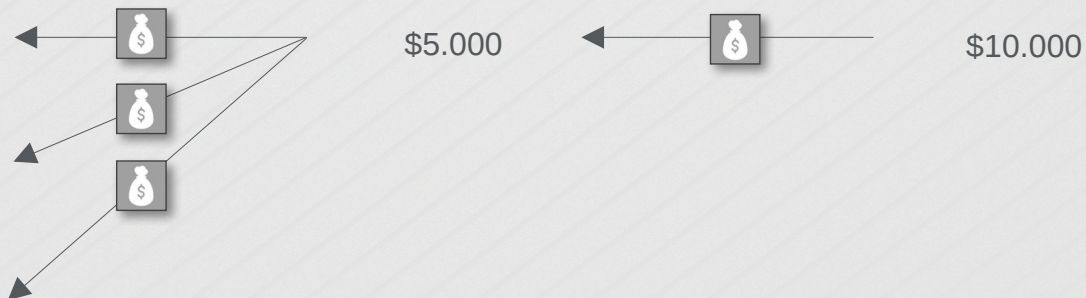
Money Manager® - Automatizace alokace kapitálu



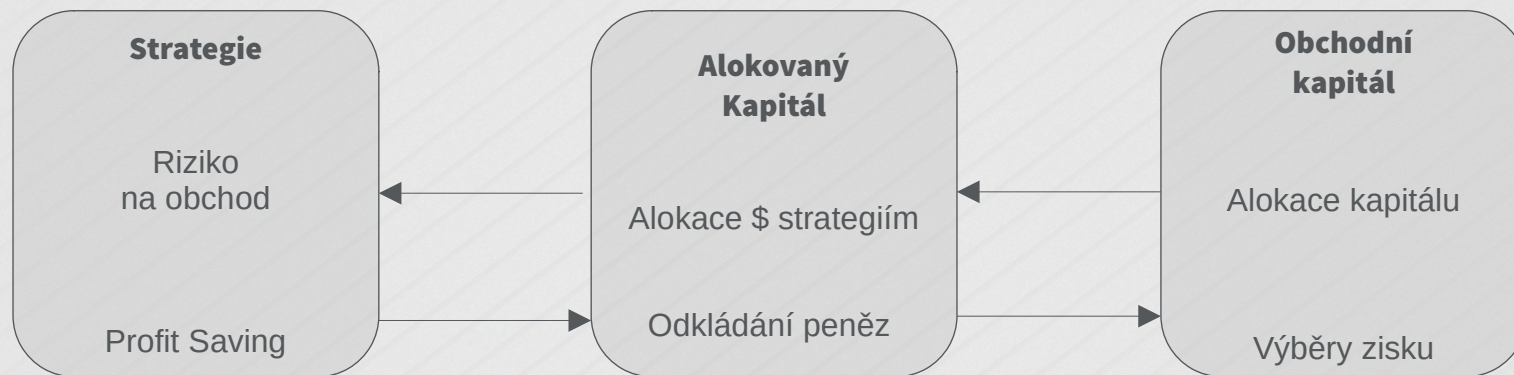
S1:
\$2.500
Risk – 2 %

S2:
\$1.500
Risk – 5 %

S3:
\$1000
Risk – 10 %



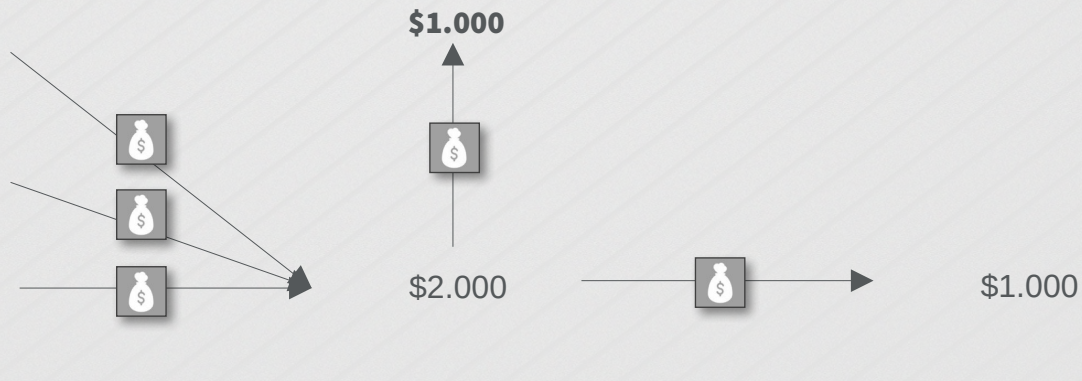
Money Manager® - Automatizace výběru zisků



S1:
(+\$1.000)

S2:
(+\$500)

S3:
(+\$500)



Aplikace OffTimes + MM: Výrazné zvýšení edge

Profit Curve (Cumulative Profit)

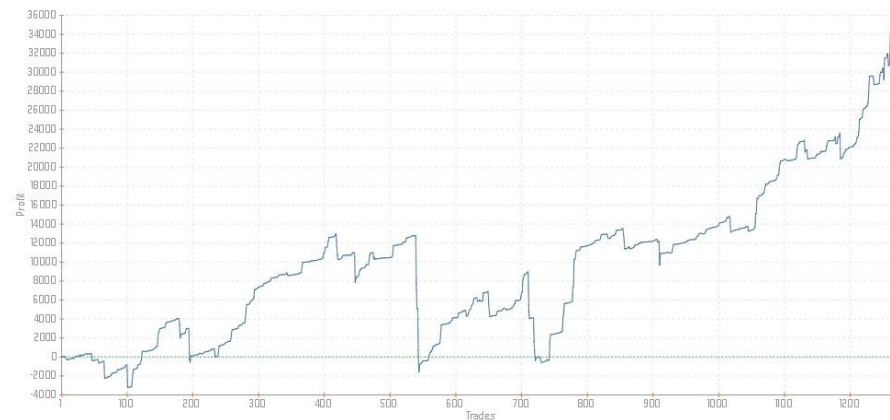


Summary Stats

Σ	Number								Metrics			Total			
	Trades		Flat	Win		Loss		PPS	KC [P]	PF [P]	Size	Gain	Loss	Profit	
Long	46.52%	254	0%	0	91.73%	233	8.27%	21	253.95	16.02	2.05	38.01	18851.20	-9198.54	9652.66
Short	53.48%	292	0%	0	93.49%	273	6.51%	19	387.22	18.56	3.19	65.53	36945.21	-11570.39	25374.82
All		546	0%	0	92.67%	506	7.33%	40	338.30	16.99	2.69	103.54	55796.41	-20768.93	35027.48

Σ	Average							Maximum		MDD [P]			Probability		
	Size	Gain	Loss	Profit	Daily	MDD	Gain	Loss	Trade	Balance	Equity	Win	Loss	WLR	
Long	0.15	80.91	-438.03	38.00	134.06	226.15	3025.96	-3188.96	11173.21			91.73%	8.27%	11.10	
Short	0.22	135.33	-608.97	86.90	352.43	325.54	2812.62	-2716.88	7129.54			93.49%	6.51%	14.37	
All	0.19	110.27	-519.22	64.15	486.49	279.31	3025.96	-3188.96	11173.21	3867.18	11173.21	92.67%	7.33%	12.65	

Profit Curve (Cumulative Profit)

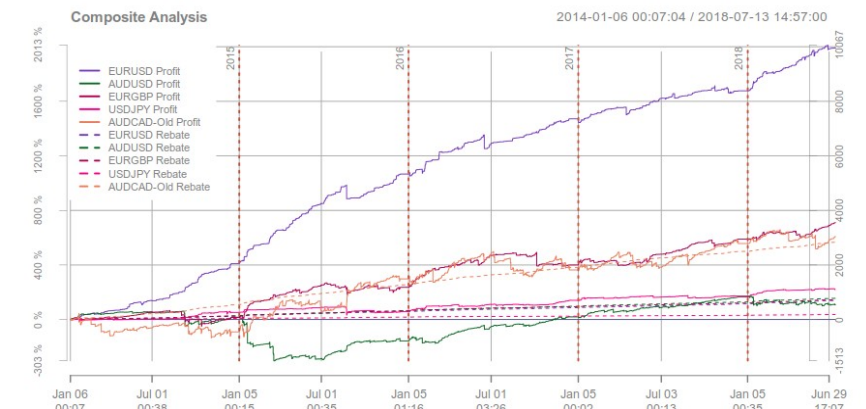
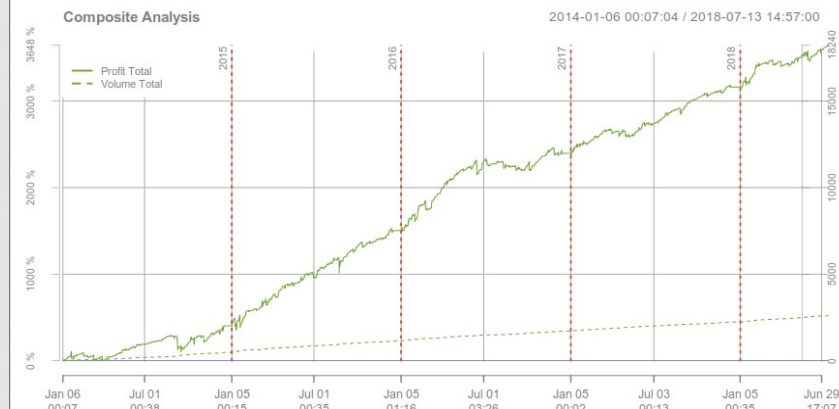
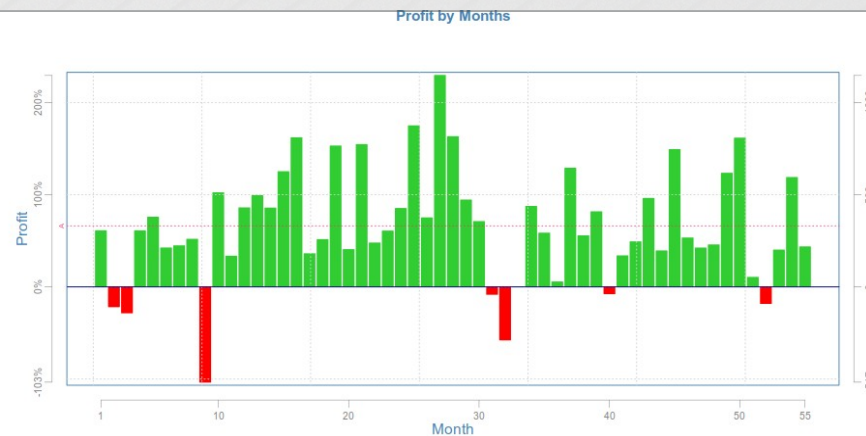


Summary Stats

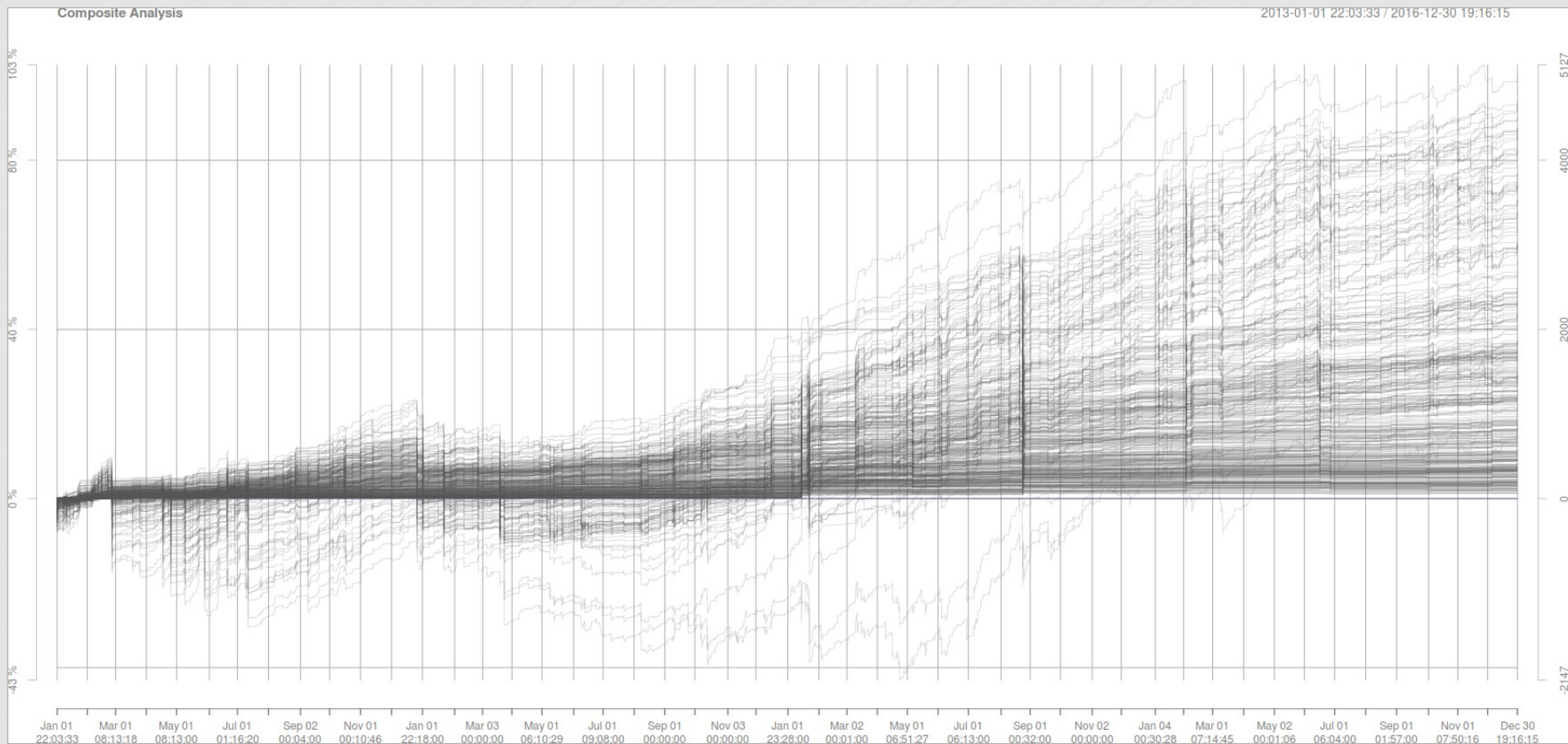
Σ	Number							Metrics				Total			
	Trades		Flat		Win		Loss	PPS	KC [P]	PF [P]	Size	Gain	Loss	Profit	
Long	47.96%	612	0%	0	90.20%	552	9.80%	60	111.32	15.37	1.33	90.70	40709.40	-30612.32	10097.08
Short	52.04%	664	0%	0	93.52%	621	6.48%	43	218.48	22.66	1.64	111.41	62577.07	-38236.10	24340.97
All		1276	0%	0	91.93%	1173	8.07%	103	170.39	18.31	1.50	202.11	103286.47	-68848.42	34438.05

Σ	Average							Maximum		MDD [P]			Probability		
	Size	Gain	Loss	Profit	Daily	MDD	Gain	Loss	Trade	Balance	Equity	Win	Loss	WLR	
Long	0.15	73.75	-510.21	16.50	55.48	249.73	3025.96	-4052.67	11173.21			90.20%	9.80%	9.20	
Short	0.17	100.77	-889.21	36.66	133.74	275.34	2812.62	-5213.10	8180.16			93.52%	6.48%	14.44	
All	0.16	88.05	-668.43	26.99	189.22	263.06	3025.96	-5213.10	11173.21	14551.46	16615.99	91.93%	8.07%	11.39	

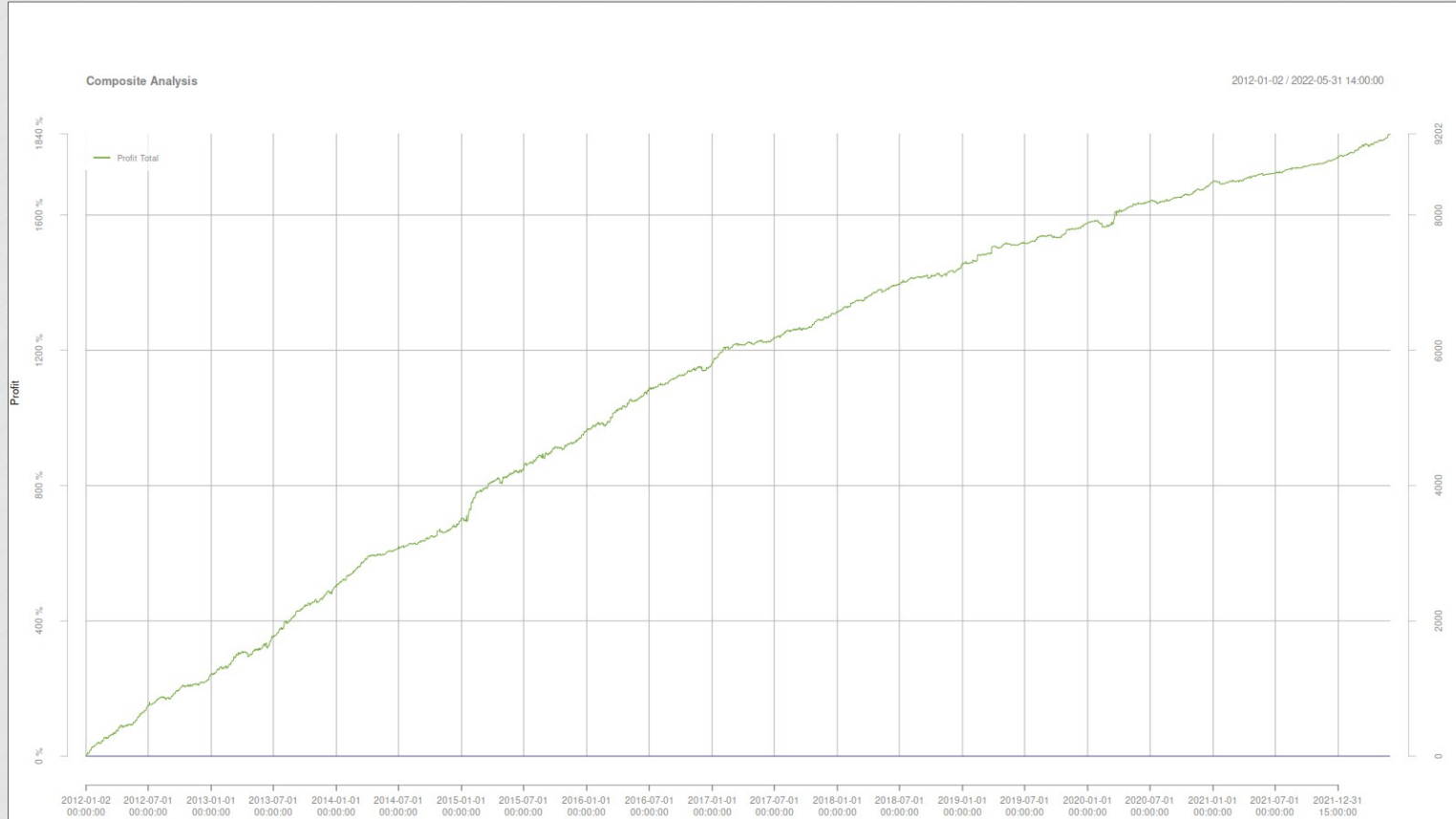
Podrobná datová analýza → efektivní nástroj optimalizace



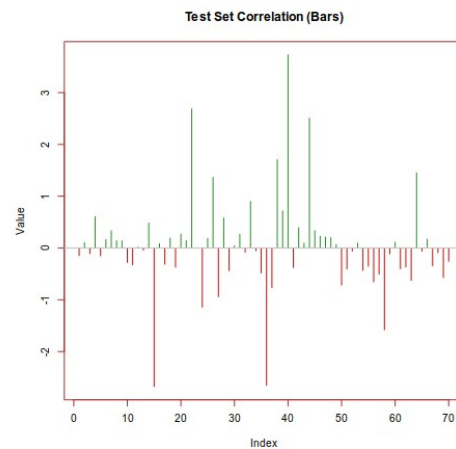
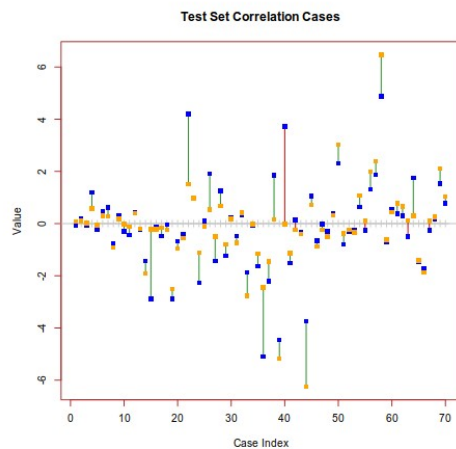
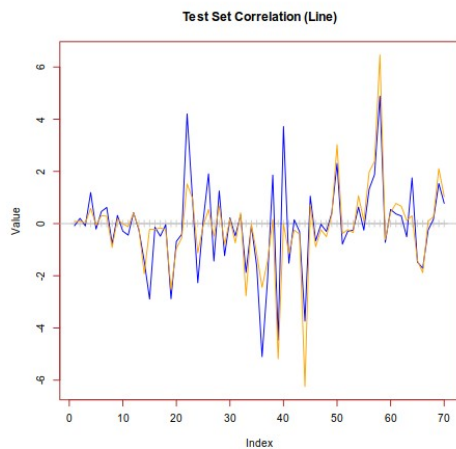
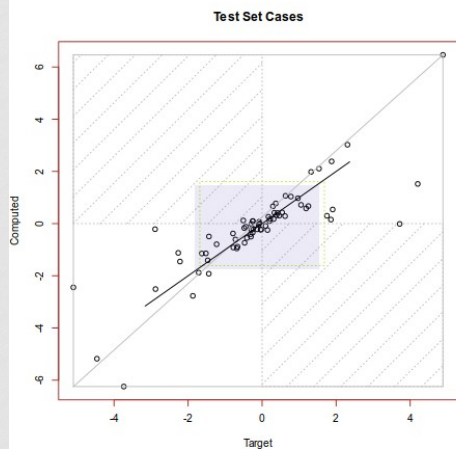
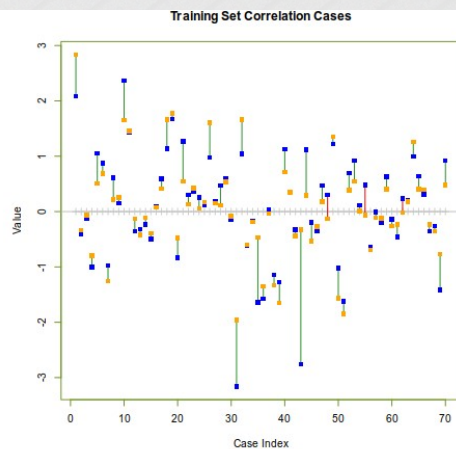
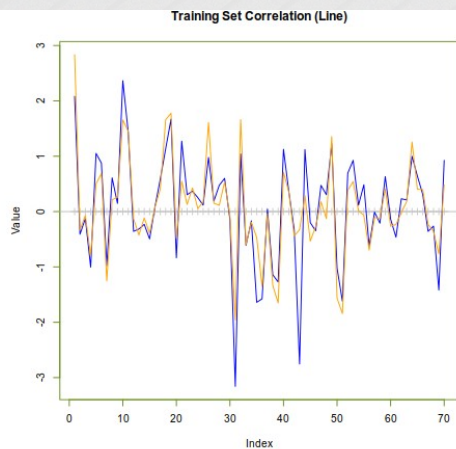
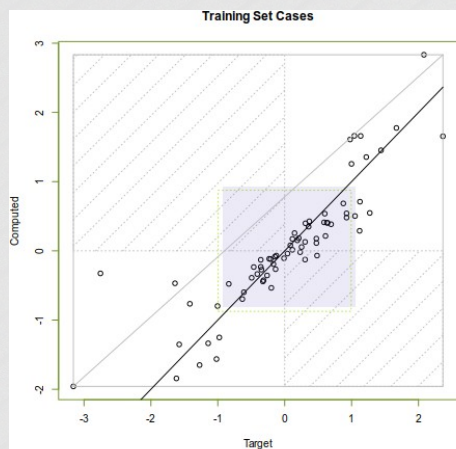
Nové obchodní myšlenky



Kompozitní analýza



Nové obchodní přístupy – ANN / Machine learning



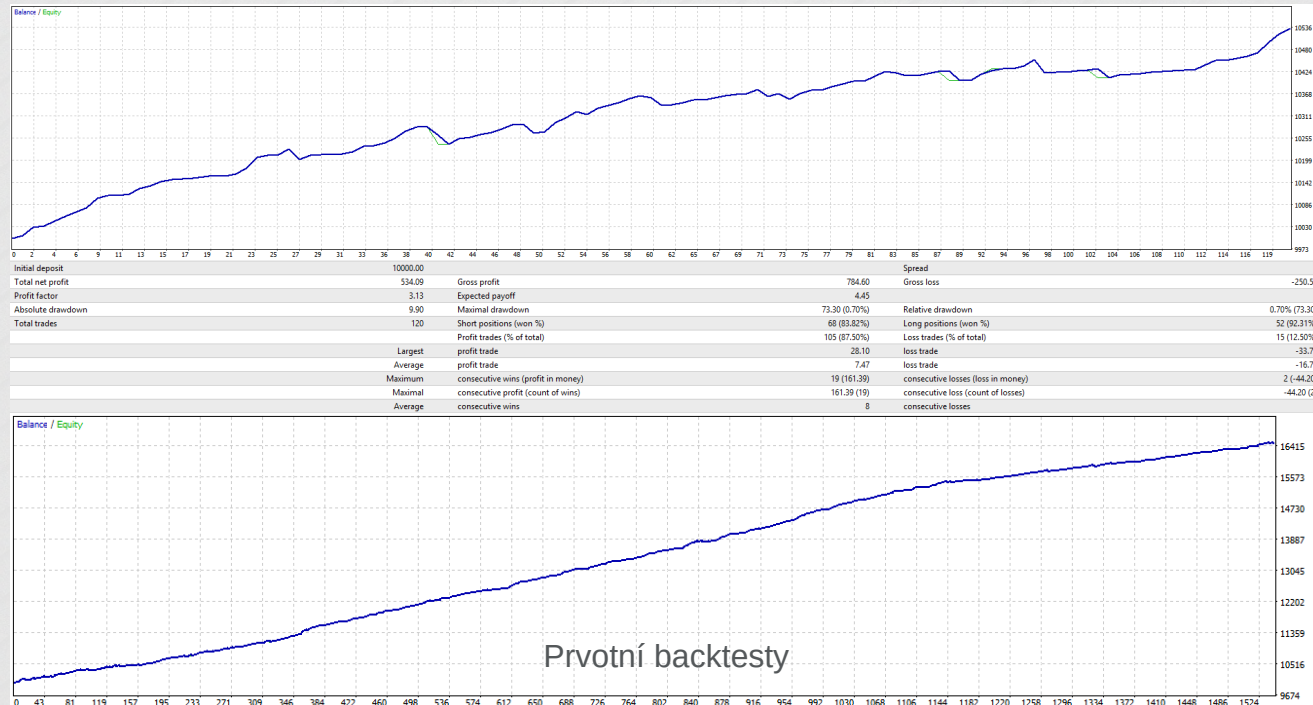
Ukázka profesionální spolupráce



Predikce založené na
neurálních sítích,
machine learningu, AI
modelech

Team 10+ lidí

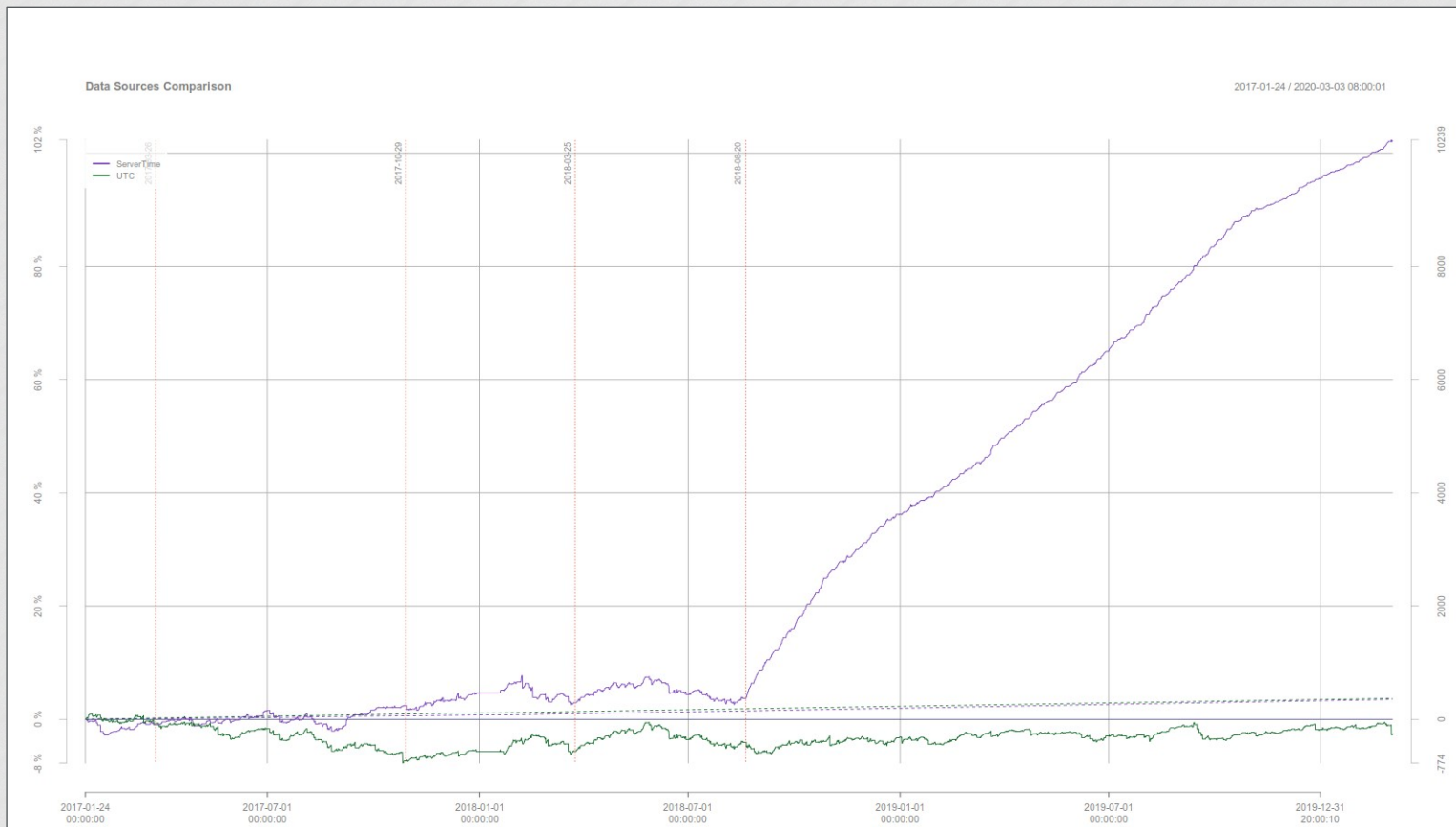
Investováno do vývoje: ~1M USD
Obchodní kapitál: > 2M USD



Ukázka profesionální spolupráce – korektnost historických dat



Ukázka profesionální spolupráce – Sjednocení formátu dat



Ukázka profesionální spolupráce – Analýza nákladů



Lowcost
Broker

Broker
s průměrnými
náklady

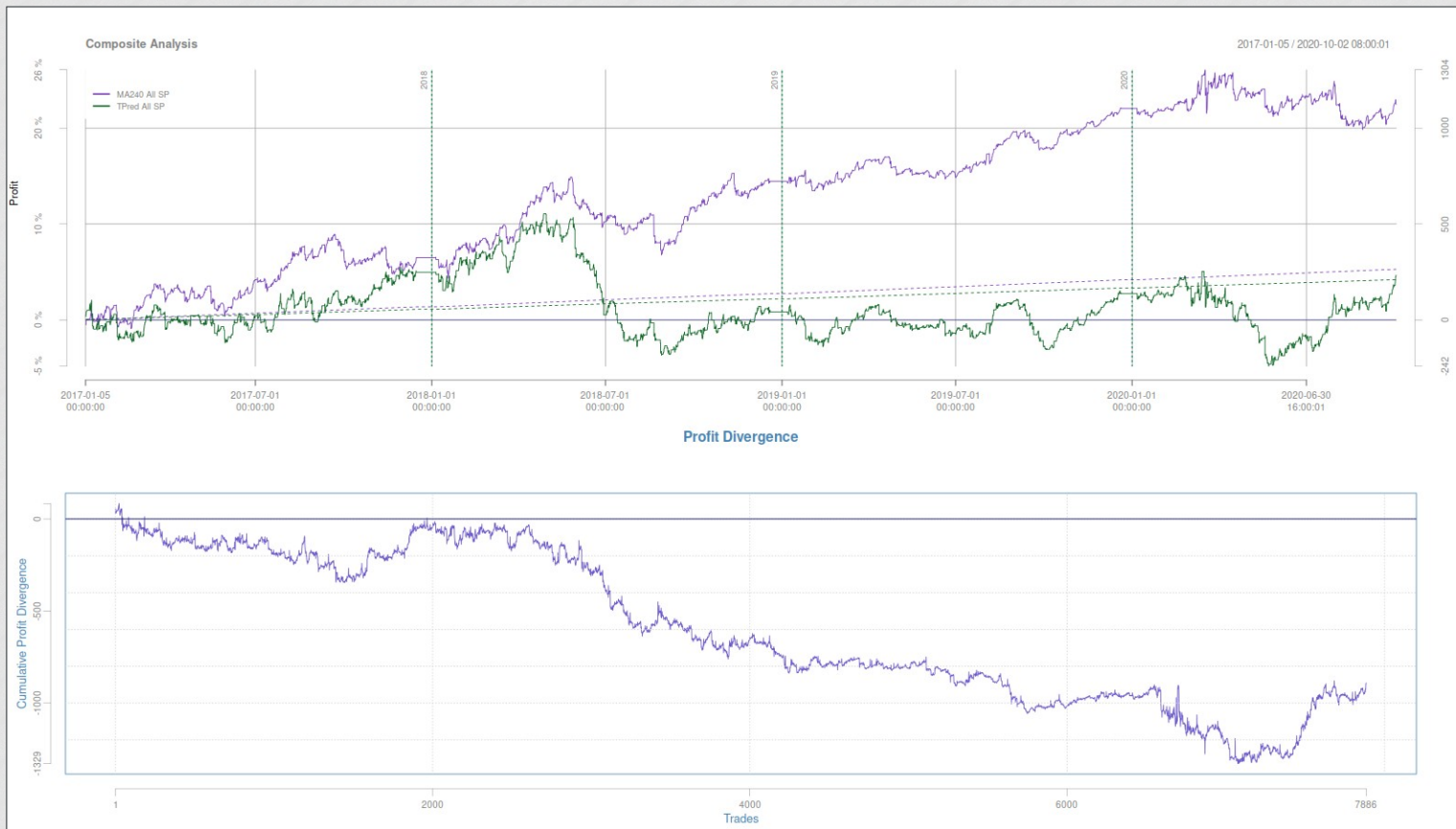
Ukázka profesionální spolupráce – komparace s elementární strategií



MA 240
Mean Reversion

Neural Network
Machine Learning
Regression Model
Strategy ©®

Ukázka profesionální spolupráce



Ukázka profesionální spolupráce



QuantLab.cz

2018-01-01 14:00:11	TD	SL	=====>							TP	26
2018-01-01 14:00:12	PC	BTC-GLD	1000	0.00000005	0.00002505	0.00002510	0.00002511	0.00000011	0.00000166	0.00000106	
2018-01-01 14:00:15	PC	BTC-GLD	2000	0.00000006	0.00002505	0.00002511	0.00002511	0.00000000	0.00000166	0.00000106	
2018-01-01 14:00:18	PC	BTC-GLD	3000	0.00000005	0.00002544	0.00002549	0.00002544	0.00000033	0.00000199	0.00000145	
2018-01-01 14:00:20	PC	BTC-GLD	2000	0.00000001	0.00002551	0.00002552	0.00002551	0.00000007	0.00000206	0.00000152	
2018-01-01 14:00:21	PC	BTC-GLD	1000	0.00000001	0.00002551	0.00002552	0.00002552	0.00000001	0.00000207	0.00000152	
2018-01-01 14:00:22	PC	BTC-GLD	1000	0.00000003	0.00002549	0.00002552	0.00002549	-0.00000003	0.00000204	0.00000150	
2018-01-01 14:00:25	PC	BTC-GLD	2000	0.00000020	0.00002580	0.00002600	0.00002600	0.00000051	0.00000255	0.00000181	
2018-01-01 14:00:25	TD	SL	=====>							TP	36
2018-01-01 14:00:30	PC	BTC-GLD	5000	0.00000004	0.00002596	0.00002600	0.00002600	0.00000000	0.00000255	0.00000197	
2018-01-01 14:00:36	PC	BTC-GLD	5000	0.00000010	0.00002600	0.00002610	0.00002610	0.00000010	0.00000265	0.00000201	
2018-01-01 14:00:38	PC	BTC-GLD	2000	0.00000002	0.00002618	0.00002620	0.00002620	0.00000010	0.00000275	0.00000219	
2018-01-01 14:00:41	PC	BTC-GLD	2000	0.00000010	0.00002610	0.00002620	0.00002610	-0.00000010	0.00000265	0.00000211	
2018-01-01 14:00:43	PC	BTC-GLD	2000	0.00000001	0.00002625	0.00002626	0.00002626	0.00000016	0.00000281	0.00000226	
2018-01-01 14:00:45	PC	BTC-GLD	2000	0.00000013	0.00002625	0.00002638	0.00002638	0.00000012	0.00000293	0.00000226	
2018-01-01 14:00:46	PC	BTC-GLD	1000	0.00000014	0.00002626	0.00002640	0.00002640	0.00000002	0.00000295	0.00000227	
2018-01-01 14:00:48	PC	BTC-GLD	2000	0.00000006	0.00002610	0.00002616	0.00002616	-0.00000024	0.00000271	0.00000211	
2018-01-01 14:00:51	PC	BTC-GLD	2000	0.00000014	0.00002626	0.00002640	0.00002640	0.00000024	0.00000295	0.00000227	
2018-01-01 14:00:53	PC	BTC-GLD	2000	0.00000006	0.00002634	0.00002640	0.00002634	-0.00000006	0.00000289	0.00000235	
2018-01-01 14:00:54	PC	BTC-GLD	1000	0.00000006	0.00002634	0.00002640	0.00002640	0.00000006	0.00000295	0.00000235	
Date	MT	Instrument	Sleep	Spread	Bid	Ask	Last	Change	Session Run	Profit	
2018-01-01 14:00:55	PC	BTC-GLD	1000	0.00000016	0.00002634	0.00002650	0.00002650	0.00000010	0.00000305	0.00000235	
2018-01-01 14:00:57	PC	BTC-GLD	2000	0.00000019	0.00002626	0.00002645	0.00002645	-0.00000005	0.00000300	0.00000227	
2018-01-01 14:00:59	PC	BTC-GLD	2000	0.00000032	0.00002634	0.00002666	0.00002634	-0.00000011	0.00000289	0.00000235	
2018-01-01 14:01:01	PC	BTC-GLD	2000	0.00000045	0.00002645	0.00002690	0.00002690	0.00000056	0.00000345	0.00000246	
2018-01-01 14:01:03	PC	BTC-GLD	1000	0.00000006	0.00002634	0.00002640	0.00002640	-0.00000050	0.00000295	0.00000235	
2018-01-01 14:01:04	PC	BTC-GLD	1000	0.00000032	0.00002666	0.00002698	0.00002692	0.00000052	0.00000347	0.00000267	
2018-01-01 14:01:04	TD	SL	=====>							TP	46
2018-01-01 14:01:06	PC	BTC-GLD	2000	0.00000008	0.00002690	0.00002698	0.00002659	-0.00000033	0.00000314	0.00000291	
2018-01-01 14:01:08	TD	Position Closed	Time Limit				44.777 x BTC-GLD @ 0.00002689				
2018-01-01 14:01:08	TD	Final Profit					0.00000290 x 44.777		12.09 %	0.00012985	
2018-01-01 14:01:09	TD	Account Balance	0.00239651		->	0.00252068		5.18 %		0.00012417	
[2018-01-01 14:01:09] The Terminal Trader is exiting after the first trade											
[2018-01-01 14:01:09] Trading of BTC-GLD finished											
[2018-01-01 14:01:09] The program is going to exit now because single trade mode is active ...											
[2018-01-01 14:01:09] Standard Exit											
~/.Data/Development/Python/Projects/Stalker\$											
0 Zero 1 Alpha 2 Bravo 3 Charlie											
[&S] [2018-01-01 15:06:31]											


```
[2018-01-06 15:27:57] The Stalker 0.947
[2018-01-06 15:27:57] The Stalker currently is in the Real Execution Mode
[2018-01-06 15:27:57] Connected to the Exchange
[2018-01-06 15:28:02] The Telegram client has already been authorized. No further actions are required in order to log in.
[2018-01-06 15:28:02] Processing a Telegram message from Fast Signals ™ (1128512720) (61 sec)
[2018-01-06 15:28:02] 3 minutes left. Next post is coin name and link!
[2018-01-06 15:30:04] Processing a Telegram message from Fast Signals ™ (1128512720) (2 sec)
StealthCoin (XST)
https://bittrex.com/Market/Index?MarketName=BTC-XST
[2018-01-06 15:30:04] Going to enter a trade on BTC-XST
[2018-01-06 15:30:04] Already connected to the Exchange
```

The Terminal Trader v. 0.841										
Date MT Data ...										
2018-01-06 15:30:04 AC Account Balance: 0.02048730 BTC										
2018-01-06 15:30:04 -- Instrument: BTC-XST Minimal: 12.06300000 Standard: 188.28100000										
Date	MT	Instrument	Sleep	Spread	Bid	Ask	Last	Change	Session Run	Profit
2018-01-06 15:30:04	FP	BTC-XST	0	0.00000323	0.00008382	0.00008705	0.00008705	0.00000000	0	
2018-01-06 15:30:04	TD	Maximal Spread		0.00000348			4.00 %			
2018-01-06 15:30:04	TD	Opening Position					188.281 x BTC-XST @ 0.00009227			
2018-01-06 15:30:09	TD	Position Opened					188.281 x BTC-XST @ 0.00008708			
2018-01-06 15:30:09	TD	Target Profit		0.00002612	0.00011320	30.00 %				
2018-01-06 15:30:09	TD	Stop Loss		0.00000871	0.00007837	10.00 %				
2018-01-06 15:30:10	PC	BTC-XST	1000	0.00000001	0.00008704	0.00008705	0.00008705	0.00000000	0.00 %	-0.05 %
2018-01-06 15:30:10	TD	SL		=						TP 25
2018-01-06 15:30:10	TD	Time Limits		2	78	58	18			
2018-01-06 15:30:19	PC	BTC-XST	9000	0.00000262	0.00009417	0.00009679	0.00009140	0.00000435	5.00 %	8.14 %
2018-01-06 15:30:19	TD	SL		=====						TP 45
2018-01-06 15:30:20	PC	BTC-XST	1000	0.00000074	0.00009417	0.00009491	0.00009491	0.00000351	9.03 %	8.14 %
0 Zero 1 Alpha 2 Bravo 3 Charlie] [S] [2018-01-06 16:31:54										

Vlastní technologická řešení – Book Trader

```
[~/Data/Development/Python/Projects/Stalker]$ st -p BookTraderSlow --bt-2 5
[2018-01-20 15:06:23] Book Trader #2 ...
[2018-01-20 15:06:23] Connected to the Exchange

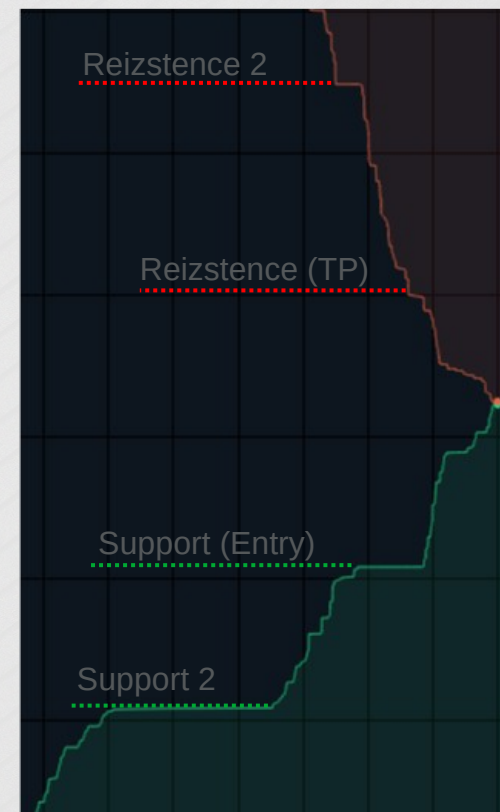
[2018-01-20 15:06:34] The Standard MSI is 0.57 %
[2018-01-20 15:06:34] 192 symbols fetched
[2018-01-20 15:06:34] The Local MSI is -1.81 %
[2018-01-20 15:06:34] Average Base Volume is 288.82
[2018-01-20 15:06:34] Qualified Instruments: 21
```

Symbol	Base Volume	Last	PrevDay	Change %	VNC
BTC-BAY	648.71	0.00001296	0.00001142	13.49 %	15.78
BTC-DASH	406.27	0.07229971	0.07224050	0.08 %	0.06
BTC-EMC2	770.42	0.00005896	0.00005797	1.71 %	2.37
BTC-IOC	434.80	0.00052799	0.00052329	0.90 %	0.70
BTC-KMD	551.00	0.00064949	0.00057241	13.47 %	13.38
BTC-MER	590.84	0.00006026	0.00005804	3.82 %	4.08
BTC-MONA	642.32	0.00066550	0.00052800	26.04 %	30.16
BTC-QTUM	1101.60	0.00341098	0.00339464	0.48 %	0.96
BTC-RCN	339.34	0.00002761	0.00002499	10.48 %	6.42
BTC-REP	523.82	0.00683000	0.00600514	13.74 %	12.98
BTC-RLC	345.29	0.00021944	0.00019759	11.06 %	6.89
BTC-SALT	540.92	0.00071008	0.00071916	-1.26 %	-1.23
BTC-SBD	806.91	0.00057822	0.00044374	30.31 %	44.10
BTC-SPHR	550.52	0.00056649	0.00052717	7.46 %	7.40
BTC-STEEM	1401.03	0.00042900	0.00041588	3.15 %	7.97
BTC-STORJ	469.33	0.00014567	0.00014708	-0.96 %	-0.81
BTC-VOX	489.40	0.00003080	0.00003132	-1.66 %	-1.47
BTC-VTC	440.81	0.00045750	0.00039018	17.25 %	13.72
BTC-WAVES	531.24	0.00074500	0.00073835	0.90 %	0.86
BTC-XMR	1091.62	0.03148220	0.02800000	12.44 %	24.48
BTC-ZCL	846.68	0.01360205	0.01384169	-1.73 %	-2.64

Symbols	Total BasVol	Avg Change %	MSI
21	13522.86	7.67 %	1.86

```
[2018-01-20 15:06:34] Invoking the Book Trader
[2018-01-20 15:06:35] Book Trader #1 ...
[2018-01-20 15:06:35] Book Depth Limit: 5 %
[2018-01-20 15:06:35] Already connected to the Exchange

[2018-01-20 15:06:35] Processing Vertcoin (BTC-VTC)
Distance Ratio: 0.50
Quantity Ratio: 422.83
Balance Ratio: 848.22
[2018-01-20 15:06:36] One of SL/TP is zero: 0.4/0.0
```



Vlastní technologická řešení (crypto grid trading) – Carmen



```
→ carmen -v --trade [~/Data/Development/Python/Projects/Carmen]

Executing Trader

[2022-02-24 21:05:25] Balance: 5000

[2022-02-24 21:05:25] - Loading Strategy: Tester
[2022-02-24 21:05:26] - Loaded Strategy: Tester
[2022-02-24 21:05:26] - Loading Strategy: BZK-STD-1M
[2022-02-24 21:05:26] - Loaded Strategy: BZK-STD-1M

[2022-02-24 21:05:26] - Fetching BTC/USDT 1M: 3
[2022-02-24 21:05:26] - Fetching BTC/USDT 1M: 5
[2022-02-24 21:05:26] - Strategy Start: Tester
[2022-02-24 21:05:26] - Strategy Setup: BZK-STD-1M
[2022-02-24 21:05:26] - Strategy Start: BZK-STD-1M

[2022-02-24 21:05:27] Trading Operations Started
[2022-02-24 21:05:27] Main thread heartbeat (1)
[2022-02-24 21:08:32] [BZK-STD-1M] Long BTC/USDT (0.003238) (Level #1)
[2022-02-24 21:08:34] [BZK-STD-1M] Long BTC/USDT (0.00324) (Level #2)
[2022-02-24 21:08:36] [BZK-STD-1M] Long BTC/USDT (0.00649) (Level #3)
[2022-02-24 21:08:38] [BZK-STD-1M] Long BTC/USDT (0.012987) (Level #4)
[2022-02-24 21:08:50] [BZK-STD-1M] Standard Exit
[2022-02-24 21:08:50] [BZK-STD-1M] Close BTC/USDT (0.76)
[2022-02-24 21:09:04] [BZK-STD-1M] Long BTC/USDT (0.003224) (Level #1)
[2022-02-24 21:09:06] [BZK-STD-1M] Standard Exit
[2022-02-24 21:09:06] [BZK-STD-1M] Close BTC/USDT (-0.11)
[2022-02-24 21:09:08] [BZK-STD-1M] Long BTC/USDT (0.003227) (Level #1)
[2022-02-24 21:09:10] [BZK-STD-1M] Long BTC/USDT (0.00323) (Level #2)
[2022-02-24 21:09:12] [BZK-STD-1M] Long BTC/USDT (0.006467) (Level #3)
[2022-02-24 21:09:14] [BZK-STD-1M] Long BTC/USDT (0.012956) (Level #4)
[2022-02-24 21:12:32] [BZK-STD-1M] Standard Exit
[2022-02-24 21:12:32] [BZK-STD-1M] Close BTC/USDT (-3.28)
[2022-02-24 21:12:46] [BZK-STD-1M] Long BTC/USDT (0.003241) (Level #1)
[2022-02-24 21:12:52] [BZK-STD-1M] Standard Exit
[2022-02-24 21:12:52] [BZK-STD-1M] Close BTC/USDT (-0.03)
[2022-02-24 21:20:10] [BZK-STD-1M] Long BTC/USDT (0.003208) (Level #1)
[2022-02-24 21:20:14] [BZK-STD-1M] Standard Exit
[2022-02-24 21:20:14] [BZK-STD-1M] Close BTC/USDT (0.17)
[2022-02-24 21:20:16] [BZK-STD-1M] Long BTC/USDT (0.003209) (Level #1)
[2022-02-24 21:20:18] [BZK-STD-1M] Long BTC/USDT (0.003212) (Level #2)
[2022-02-24 21:20:20] [BZK-STD-1M] Long BTC/USDT (0.006431) (Level #3)
[2022-02-24 21:20:38] [BZK-STD-1M] Long BTC/USDT (0.012873) (Level #4)
[2022-02-24 21:28:24] [BZK-STD-1M] Standard Exit
[2022-02-24 21:28:24] [BZK-STD-1M] Close BTC/USDT (-8.73)
[2022-02-24 21:28:39] [BZK-STD-1M] Long BTC/USDT (0.003235) (Level #1)

-----
| Strategy      Instrument  Pos    Size    Value    Profit |
| BZK-STD-1M   BTC/USDT    1      0.003235  124.61   -0.11  |
-----
```

Vlastní technologická řešení – Aktuální vývoj - George

```
└─[~]─
└─ george -i
>>> The closing prices for the last 24 hours on EURUSD are [1.13821, 1.1316, 1.13199, 1.13211, 1.13339, 1.13376, 1.1343, 1.1344, 1.13338, 1.13287, 1.1385, 1.13805, 1.13705, 1.13741, 1.13815, 1.13711, 1.13785, 1.13937, 1.14404, 1.1437, 1.1408, 1.1408, 1.13487, 1.13674]. Predict the close price for next interval and return the predicted price in following json format {'PredictedPrice': '1.12345'}.
To predict the next close price for EURUSD, we can use a time series forecasting model. One such model is the ARIMA model which uses a combination of autoregressive (AR) and moving average (MA) components to forecast future values.

Using Python, we can fit an ARIMA model to the provided data and predict the next close price as follows:

```python
import pandas as pd
from statsmodels.tsa.arima.model import ARIMA

create a pandas dataframe with the provided closing prices
data = pd.DataFrame({
 'close': [1.13821, 1.1316, 1.13199, 1.13211, 1.13339, 1.13376, 1.1343, 1.1344, 1.13338, 1.13287, 1.1385, 1.13805, 1.13705,
 1.13741, 1.13815, 1.13711, 1.13785, 1.13937, 1.14404, 1.1437, 1.1408, 1.1408, 1.13487, 1.13674]
})

fit an ARIMA model with order (1, 0, 1) to the data
model = ARIMA(data['close'], order=(1, 0, 1))
fit = model.fit()

predict the next close price
prediction = fit.forecast(steps=1)

format the output in a json format
output = {'PredictedPrice': f'{prediction[0][0]:.5f}'}
print(output)
```

Running the above code will output the predicted close price for the next interval in the format {'PredictedPrice': '1.12345'} as follows:



```
```json
{'PredictedPrice': '1.13549'}
```
```



Therefore, based on the provided data and using an ARIMA model with order (1, 0, 1), the predicted close price for the next interval is 1.13549.

>>> ^C

User break signal (SIGINT) received ...
```




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