



ImundboQuant 1.9 – Fully Automated Trading System

User Guide "IQ19n_FX30"

Part 1 | Overview

The IQ19n_FX30 is a fully automated trading system, build from the machine learning libraries in the famous Python Library Scikit-Learn. The portfolio management part is handled by the MetaTrader 4 trading platform and the standard Expert Advisor script within that platform. The IQ19n_FX30 is trained and tested against the global top 30 forex pairs.

Part 2 | Technical

Classifiers: 16 individual RandomForest

Training/Test data: EOD 30 FX pairs with features/classes in total of 0,56B

Forecast horizon: One trading day

Portfolio management: Two portfolio management systems, one working intraday (EA_IQ19n1) with different Entry and Exit forecast values, no limit on number of trades. The second working EOD (EA_IQ19n2), with same Entry and Exit forecast values but a limit of 2 trades in each direction, sorted on strongest values. Default position size is 0.01 lot. Most of the portfolio management settings can be changed.

Variabel	Värde
EntryLongIndValue	0.363
EntryShortIndValue	-0.369
ExitLongIndValue	0.211
ExitShortIndValue	-0.218
MaxLongOrders	30
MaxShortOrders	30
OrderLotSize	0.01
OrderFileName	OrderData\OrderDataIQ19n01
OrderFileCheckSecs	60
Slippage	0
Magic	141
OrderRetryCount	4

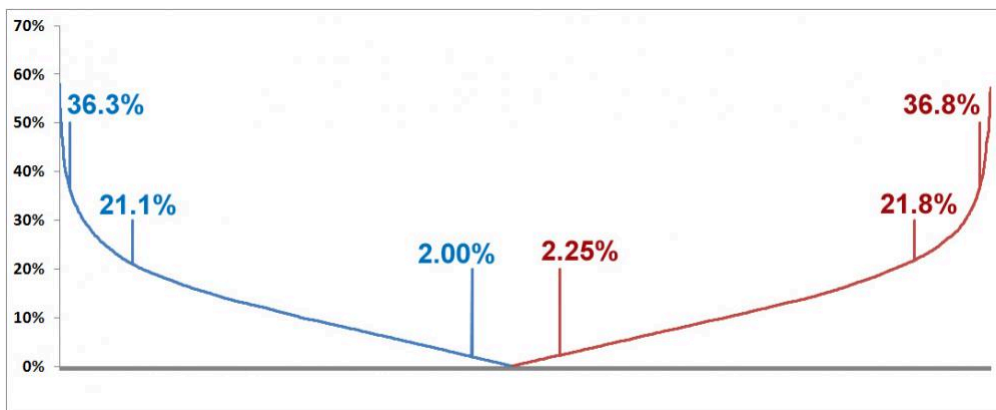
Variabel	Värde
EntryLongIndValue	0.02
EntryShortIndValue	-0.025
ExitLongIndValue	0.02
ExitShortIndValue	-0.025
MaxLongOrders	2
MaxShortOrders	2
OrderLotSize	0.01
OrderFileName	OrderData\OrderDataIQ19n02
OrderFileCheckSecs	60
Slippage	0
Magic	142
OrderRetryCount	4



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Part 3 | Distribution of past forecasts (2002-2017)

Distribution of past forecasts (2002-2017) on the global top 30 forex pairs, blue line indicate forecast overweight (in %) to the positive/long side, and red line overweight to the negative/short side. The two most extreme levels indicate the level of 2 standard deviations, the two in the middle 1 standard deviation and the two most in center stands for the level to use to accomplish the most historical and theoretical risk adjusted return, with constant exit after 1 day holding and 0.03% in trading cost. Those 6 numbers are used in the portfolio management settings.

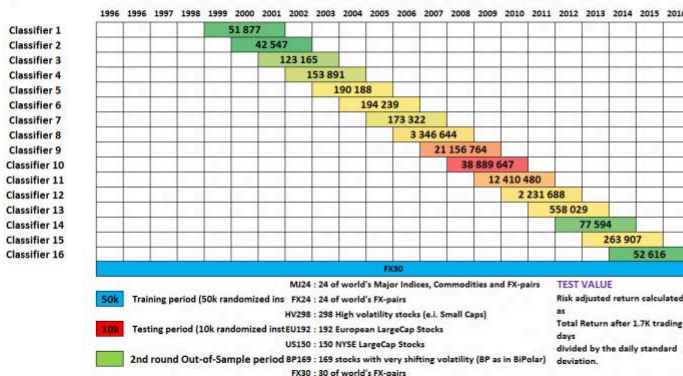


Part 4 | Testing method

The testing has been done with a walk forward and out of sample approach. The period between the years 1999-2014, has been divided in to 16 three year periods, each year have been optimized for best combination of hyper parameters, features and target calculation. The test indicator has been the risk adjusted return, calculated as total return after 10K trading days divided by the daily standard deviation. Only reoccurring settings with high performance from each three year period have been used for the final 16 optimized classifiers, one for each time period (market sentiment).

Cross Validation with semi In-Sample Optimizing

STATUS: 2017-09-12 after 22K tests (2.1K cpuH) against the top 30 FX-pairs



TOP 20 FEATURES

dateDayOffYear	9%
dateWeekOffYear	8%
SMA34vs89	7%
DWT_RL233_RL377	7%
low55_L	6%
DWT_RL144_RL200	6%
SMA233vs377	6%
DWT_RL21_RL34	6%
88U144	6%
DWT_RL55_RL89	6%
88U100	6%
DWT_RL144_RL377	6%
DWT_RL200_RL377	6%
RL200	6%
STD13sign	6%
DWT_RL100_RL377	6%
STD34_C	6%
SMA89vs144	6%
STD377_C	6%
Perc377_L	6%

TARGETS

Tgt_SCH08to13	-90.9%
Tgt_SCH05to13	-99.8%
Tgt_SCH05to8	-100.0%
Tgt_SCH05to21	-100.0%
Tgt_SCH05to34	-100.0%
Tgt_SCH08to21	-100.0%
Tgt_SCH08to34	-100.0%
Tgt_SCH13to21	-100.0%
Tgt_SCH13to34	-100.0%
Tgt_SCH21to34	-100.0%



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Part 5 | Backtest results on EURUSD, USDJPY and GBPUSD

Cost: 0.03% round turn
Entry Long: Forecast > 2.00%
Entry Short: Forecast < -2.25%
Exit: Hard 1-day

