

I sette passi del trading sistematico automatico

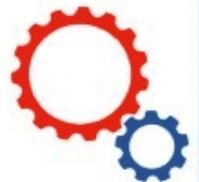
Controllare tutto il processo di automatizzazione dall'inizio alla fine...

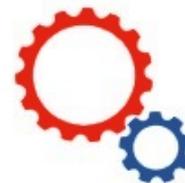
ANDREA ANGIOLINI
Algoritmica.pro S.r.l.



Trading system

Un trading system è un insieme di regole predefinite, codificate in un linguaggio di programmazione, finalizzate ad attuare una strategia di trading.



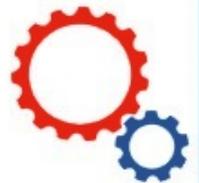


Cosa sarete in grado di fare
dopo questo webinar?



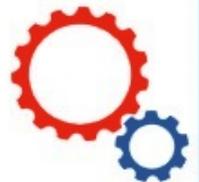
Impariamo...

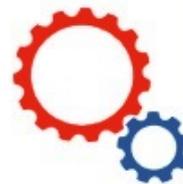
1. Cosa sono i 7 passi del trading sistematico
2. Come avere il controllo dei 7 passi
3. Quanto tempo occorre



What's next?

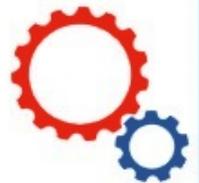
1. Trader sistematici consapevoli
2. Controllo sul processo di automatizzazione
3. Iniziare un percorso di studio

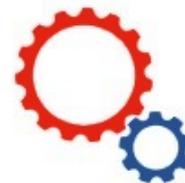




La nostra mission

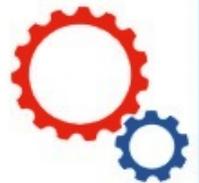
«Creare trader sistematici automatici completamente autonomi nella gestione dell'infrastruttura informatica»

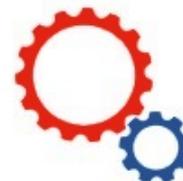




Potete vivere anche senza...

1. Idee
2. Programmazione



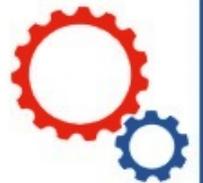


Impariamo a cosa servono e come si effettuano...

1. Backtest
2. Ottimizzazione
3. Validazione
4. Portafoglio
5. Automatizzazione



Perché si effettua un backtest?



Per vedere quanto il sistema
guadagnerà nel futuro!



@HG : Prime; Algorithmica_Workshop_MAE_Put Back-Testing Strategy Performance Report

Strategy Analysis

- Strategy Performance Summary
- Performance Ratios
- Time Analysis
- Equity Curve Detailed
- Equity Curve Detailed Long
- Equity Curve Detailed Short
- Equity Curve Detailed with DrawDown
- Equity Run-up & Drawdown
- Equity Run-up & Drawdown (%)
- Equity Curve Close To Close
- Equity Curve Close To Close With Drawdown
- Buy & Hold Return
- Value Added Monthly Index

Trade Analysis

- List of Trades
- Total Trade Analysis
- Outliers
- Run-up/Drawdown
- Trade Series Analysis
- Trade Series Statistics
- Total Trades
- Winning Trades
- Losing Trades
- Drawdown
- Drawdown P/L
- Maximum Adverse Excursion
- Maximum Adverse Excursion (%)
- Run-up
- Run-up P/L
- Maximum Favorable Excursion
- Maximum Favorable Excursion (%)

Periodical Analysis

- Settings

Strategy Performance Summary

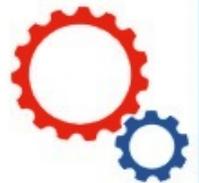
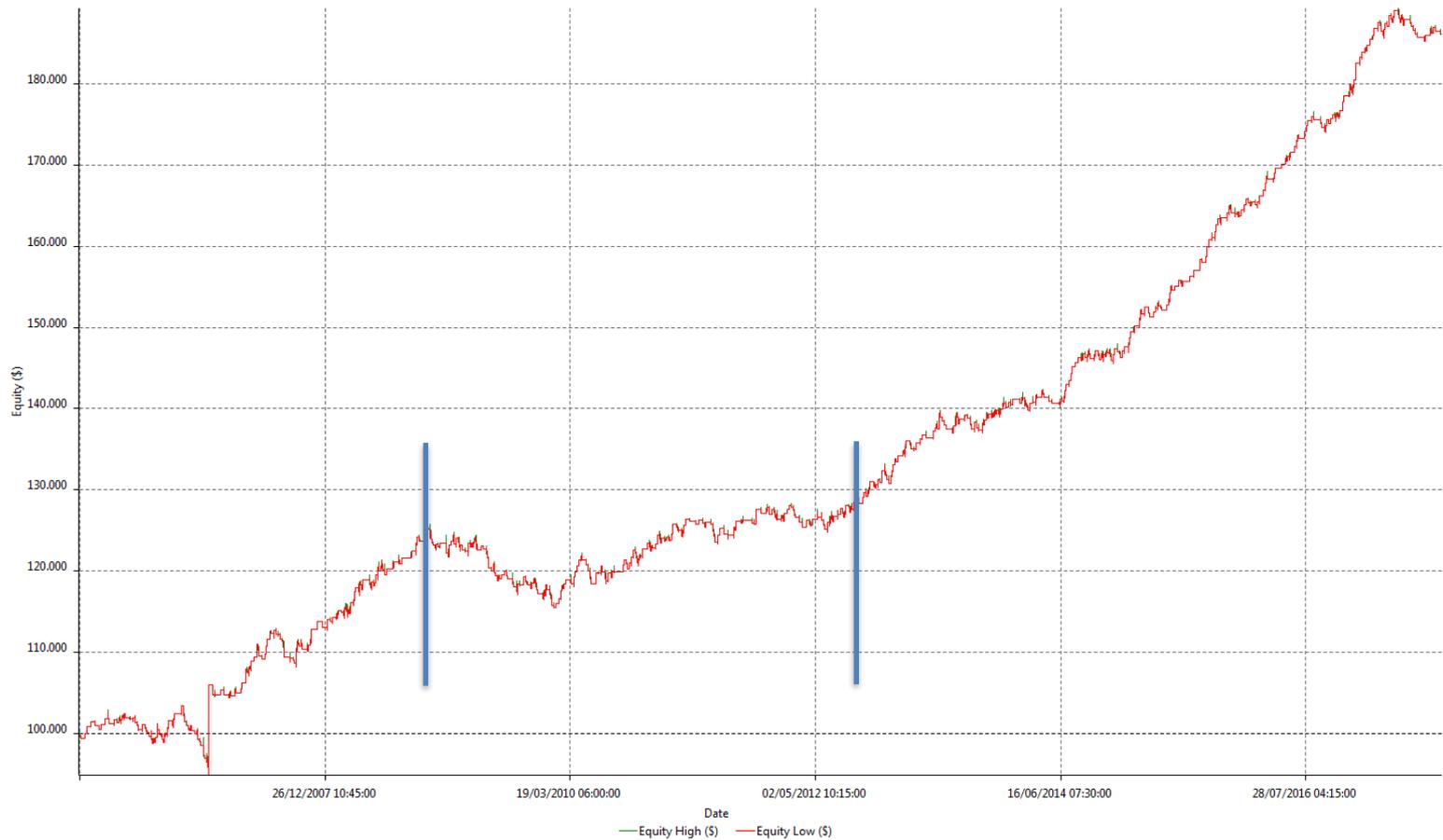
| | All Trades | Long Trades | Short Trades |
|---------------------------------|-----------------|-----------------|----------------|
| Net Profit | \$ 86.087,50 | \$ 73.775,00 | \$ 12.312,50 |
| Gross Profit | \$ 247.750,00 | \$ 190.950,00 | \$ 56.800,00 |
| Gross Loss | (\$ 161.662,50) | (\$ 117.175,00) | (\$ 44.487,50) |
| Adjusted Net Profit | \$ 64.404,51 | \$ 54.693,17 | \$ 1.983,92 |
| Adjusted Gross Profit | \$ 234.274,18 | \$ 178.921,28 | \$ 50.675,10 |
| Adjusted Gross Loss | (\$ 169.869,67) | (\$ 124.228,11) | (\$ 48.691,17) |
| Select Net Profit | \$ 107.712,50 | \$ 88.262,50 | \$ 19.450,00 |
| Select Gross Profit | \$ 233.762,50 | \$ 176.962,50 | \$ 56.800,00 |
| Select Gross Loss | (\$ 126.050,00) | (\$ 88.700,00) | (\$ 37.350,00) |
| Account Size Required | \$ 9.962,50 | \$ 5.362,50 | \$ 14.200,00 |
| Return on Account | 864,12% | 1375,76% | 86,71% |
| Return on Initial Capital | 86,09% | 73,78% | 12,31% |
| Max Strategy Drawdown | (\$ 10.337,50) | (\$ 5.750,00) | (\$ 14.625,00) |
| Max Strategy Drawdown (%) | (8,29%) | (5,67%) | (14,28%) |
| Max Close To Close Drawdown | (\$ 9.962,50) | (\$ 5.362,50) | (\$ 14.200,00) |
| Max Close To Close Drawdown (%) | (8,26%) | (5,31%) | (13,87%) |
| Return on Max Strategy Drawdown | 8,33 | 12,83 | 0,84 |
| Profit Factor | 1,53 | 1,63 | 1,28 |
| Adjusted Profit Factor | 1,38 | 1,44 | 1,04 |
| Select Profit Factor | 1,85 | 2 | 1,52 |
| Max # Contracts Held | 4 | 4 | 4 |
| Slippage Paid | \$ 0,00 | \$ 0,00 | \$ 0,00 |
| Commission Paid | \$ 0,00 | \$ 0,00 | \$ 0,00 |
| Open Position P/L | n/a | n/a | n/a |
| Annual Rate of Return | 6,29% | 5,39% | 0,9% |
| Monthly Rate of Return | 0,52% | 0,45% | 0,07% |
| Buy Hold Return | \$ 139.812,93 | \$ 139.812,93 | \$ 108.521,92 |
| Avg Monthly Return | \$ 521,74 | | |
| Monthly Return StdDev | \$ 1.442,73 | | |
| Total # of Trades | 726 | 528 | 198 |
| Percent Profitable | 46,56% | 47,73% | 43,43% |



Per CONOSCERE il trading
system (comportamento)



Equity Curve Detailed



@HG : Prime; Algorithmica_Workshop_MAE_Put Back-Testing Strategy Performance Report

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Periodical Analysis

- Settings

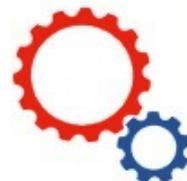
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Time Analysis

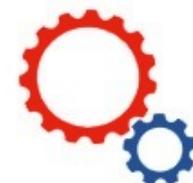
| | |
|----------------------------------|---|
| Trading Period | 13 Yrs, 8 Mths, 23 Dys, 23 Hrs, 30 Mins |
| Time in the Market | 2 Mths, 4 Dys, 21 Hrs, 45 Mins |
| Percent in the Market | 1,3% |
| Longest flat period | 1 Mth, 17 Dys, 19 Hrs, 30 Mins |
| Max Run-up Date | 16/10/2006 14:15:00 |
| Max Drawdown Date | 13/10/2006 14:15:00 |
| Max Strategy Drawdown Date | 27/01/2010 11:00:00 |
| Max Close To Close Drawdown Date | 27/01/2010 11:00:00 |



@HG : Prime; Algorithmica_Workshop_MAE_Put Back-Testing Strategy Performance Report

Monthly Period Analysis

| Period | Profit | | Gross Profit | Gross Loss | # Trades | % Profitable |
|---------|---------------|---------|--------------|---------------|----------|--------------|
| | \$ | % | | | | |
| 08/2010 | (\$ 25,00) | (0,02%) | \$ 0,00 | (\$ 25,00) | 1 | 0% |
| 07/2010 | \$ 12,50 | 0,01% | \$ 1.725,00 | (\$ 1.712,50) | 6 | 33,33% |
| 06/2010 | \$ 1.450,00 | 1,22% | \$ 2.312,50 | (\$ 862,50) | 7 | 42,86% |
| 05/2010 | (\$ 2.850,00) | (2,35%) | \$ 0,00 | (\$ 2.850,00) | 6 | 0% |
| 04/2010 | \$ 2.075,00 | 1,74% | \$ 2.550,00 | (\$ 475,00) | 5 | 80% |
| 03/2010 | \$ 837,50 | 0,71% | \$ 1.362,50 | (\$ 525,00) | 3 | 66,67% |
| 02/2010 | \$ 2.937,50 | 2,54% | \$ 3.300,00 | (\$ 362,50) | 6 | 83,33% |
| 01/2010 | (\$ 2.125,00) | (1,81%) | \$ 650,00 | (\$ 2.775,00) | 7 | 14,29% |
| 12/2009 | (\$ 425,00) | (0,36%) | \$ 1.500,00 | (\$ 1.925,00) | 6 | 33,33% |
| 11/2009 | (\$ 350,00) | (0,3%) | \$ 1.225,00 | (\$ 1.575,00) | 6 | 33,33% |
| 10/2009 | \$ 900,00 | 0,77% | \$ 1.900,00 | (\$ 1.000,00) | 6 | 50% |
| 09/2009 | (\$ 1.575,00) | (1,32%) | \$ 0,00 | (\$ 1.575,00) | 3 | 0% |
| 08/2009 | \$ 237,50 | 0,2% | \$ 1.587,50 | (\$ 1.350,00) | 6 | 50% |
| 07/2009 | (\$ 2.162,50) | (1,79%) | \$ 850,00 | (\$ 3.012,50) | 7 | 14,29% |
| 06/2009 | (\$ 1.575,00) | (1,29%) | \$ 537,50 | (\$ 2.112,50) | 5 | 20% |
| 05/2009 | (\$ 887,50) | (0,72%) | \$ 1.875,00 | (\$ 2.762,50) | 9 | 44,44% |
| 04/2009 | \$ 975,00 | 0,8% | \$ 1.675,00 | (\$ 700,00) | 4 | 50% |
| 03/2009 | (\$ 787,50) | (0,64%) | \$ 1.962,50 | (\$ 2.750,00) | 8 | 37,5% |
| 02/2009 | (\$ 250,00) | (0,2%) | \$ 1.525,00 | (\$ 1.775,00) | 5 | 40% |
| 01/2009 | \$ 37,50 | 0,03% | \$ 1.012,50 | (\$ 975,00) | 5 | 40% |
| 12/2008 | (\$ 237,50) | (0,19%) | \$ 1.737,50 | (\$ 1.975,00) | 7 | 28,57% |
| 11/2008 | \$ 1.212,50 | 0,99% | \$ 1.675,00 | (\$ 462,50) | 3 | 66,67% |
| 10/2008 | \$ 900,00 | 0,74% | \$ 900,00 | \$ 0,00 | 1 | 100% |
| 09/2008 | \$ 525,00 | 0,43% | \$ 1.312,50 | (\$ 787,50) | 4 | 50% |
| 08/2008 | \$ 750,00 | 0,62% | \$ 1.125,00 | (\$ 375,00) | 3 | 66,67% |
| 07/2008 | (\$ 250,00) | (0,21%) | \$ 1.925,00 | (\$ 2.175,00) | 7 | 42,86% |
| 06/2008 | \$ 2.237,50 | 1,89% | \$ 3.625,00 | (\$ 1.387,50) | 8 | 62,5% |
| 05/2008 | \$ 75,00 | 0,06% | \$ 1.250,00 | (\$ 1.175,00) | 3 | 33,33% |
| 04/2008 | \$ 2.087,50 | 1,8% | \$ 3.362,50 | (\$ 1.275,00) | 7 | 57,14% |
| 03/2008 | \$ 1.625,00 | 1,42% | \$ 2.862,50 | (\$ 1.237,50) | 7 | 42,86% |
| 02/2008 | (\$ 275,00) | (0,24%) | \$ 1.000,00 | (\$ 1.275,00) | 5 | 40% |
| 01/2008 | \$ 1.737,50 | 1,54% | \$ 2.062,50 | (\$ 325,00) | 4 | 75% |
| 12/2007 | (\$ 700,00) | (0,62%) | \$ 0,00 | (\$ 700,00) | 1 | 0% |

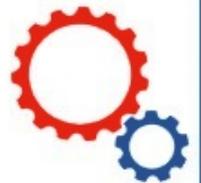


Trade Series Analysis

| | |
|----------------------------|---------------|
| Z-score | (0,51) |
| Confidence Limits | 0,39 |
| Strategy ME | \$ 118,58 |
| Max Consec. Winners | 7 |
| Max Consec. Losers | 10 |
| Largest Consec. Profit | \$ 11.062,50 |
| Largest Consec. Loss | (\$ 5.500,00) |
| Largest Consec. Profit (%) | 11,66% |
| Largest Consec. Loss (%) | (5,48%) |



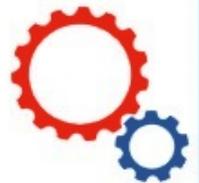
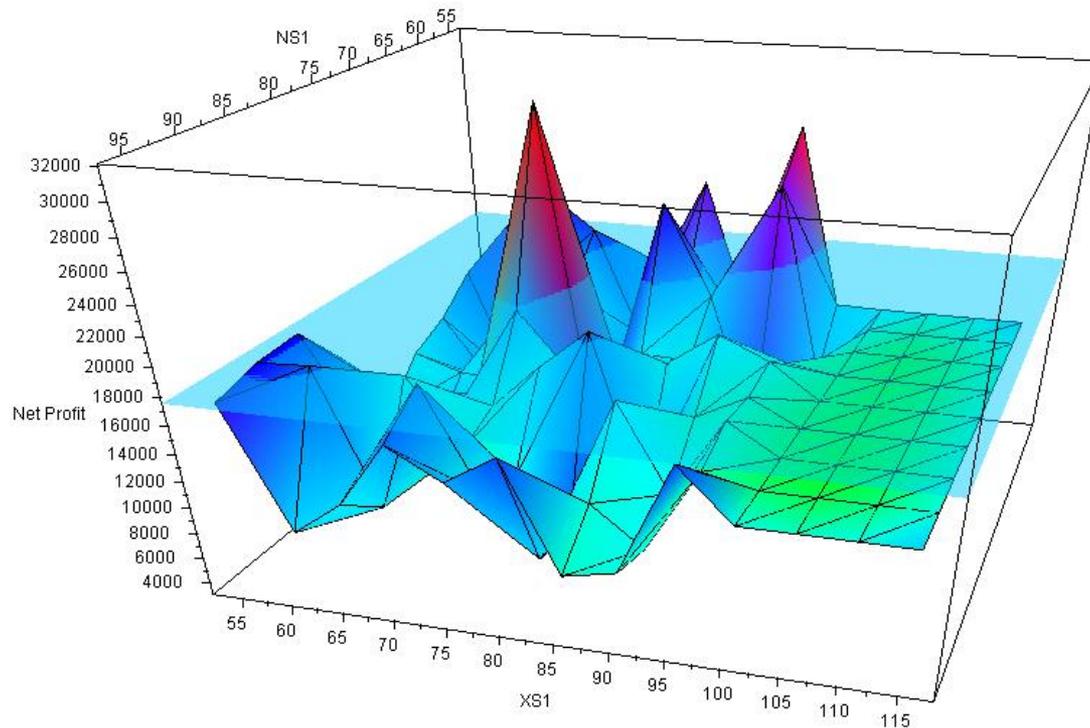
Perché si effettua
l'ottimizzazione?



Per avere una combinazione
migliore di inputs!

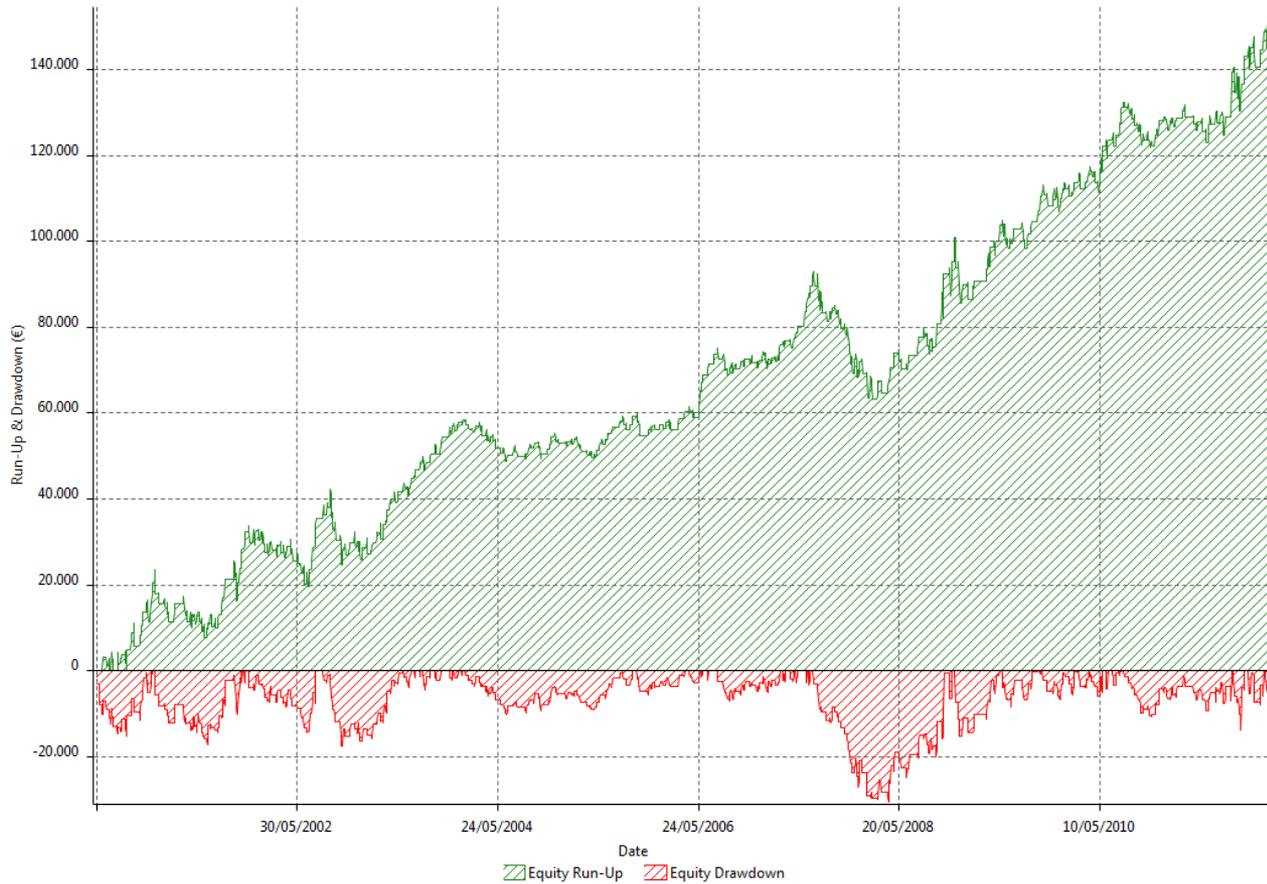


Sovraottimizzazione



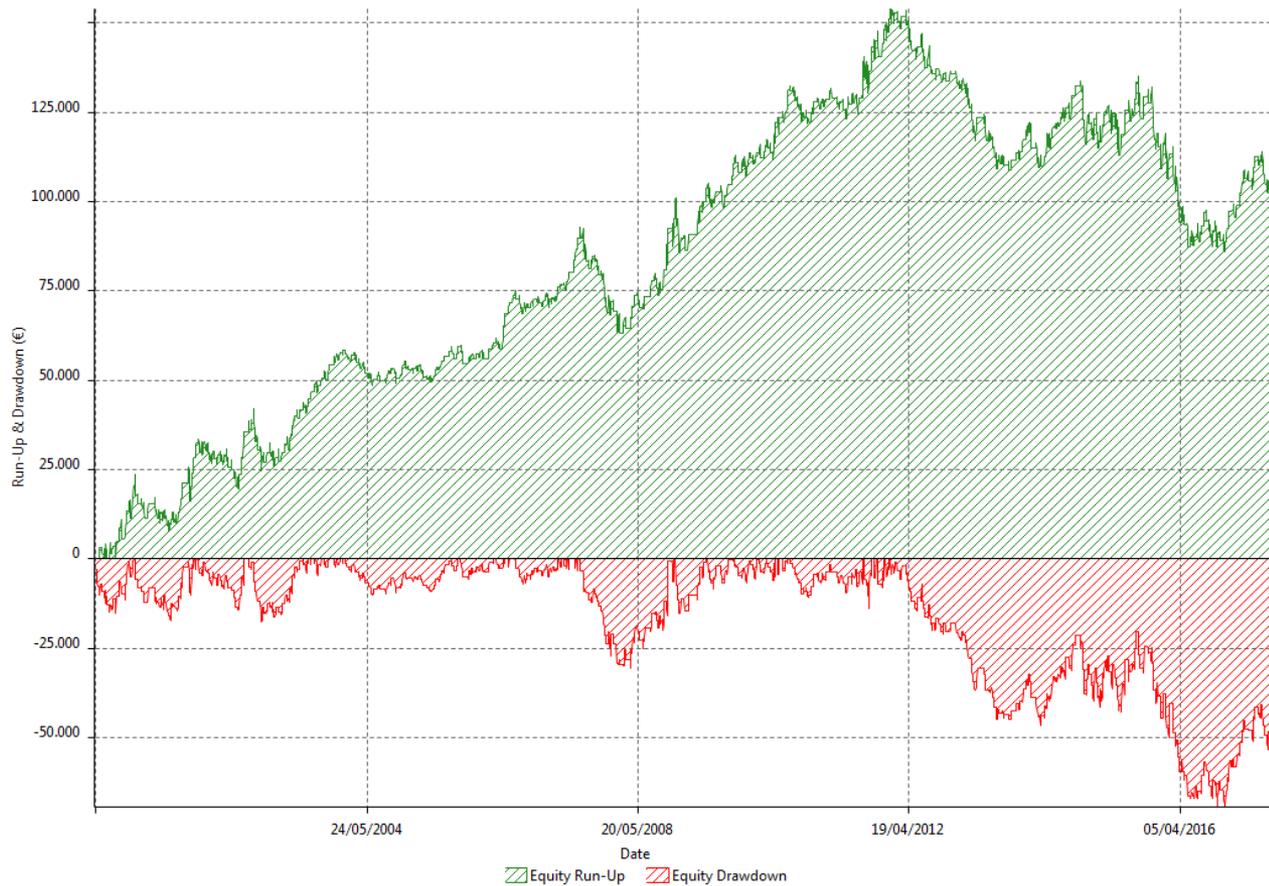
Backtest

Equity Run-up & Drawdown



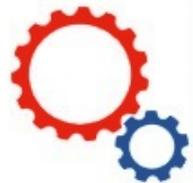
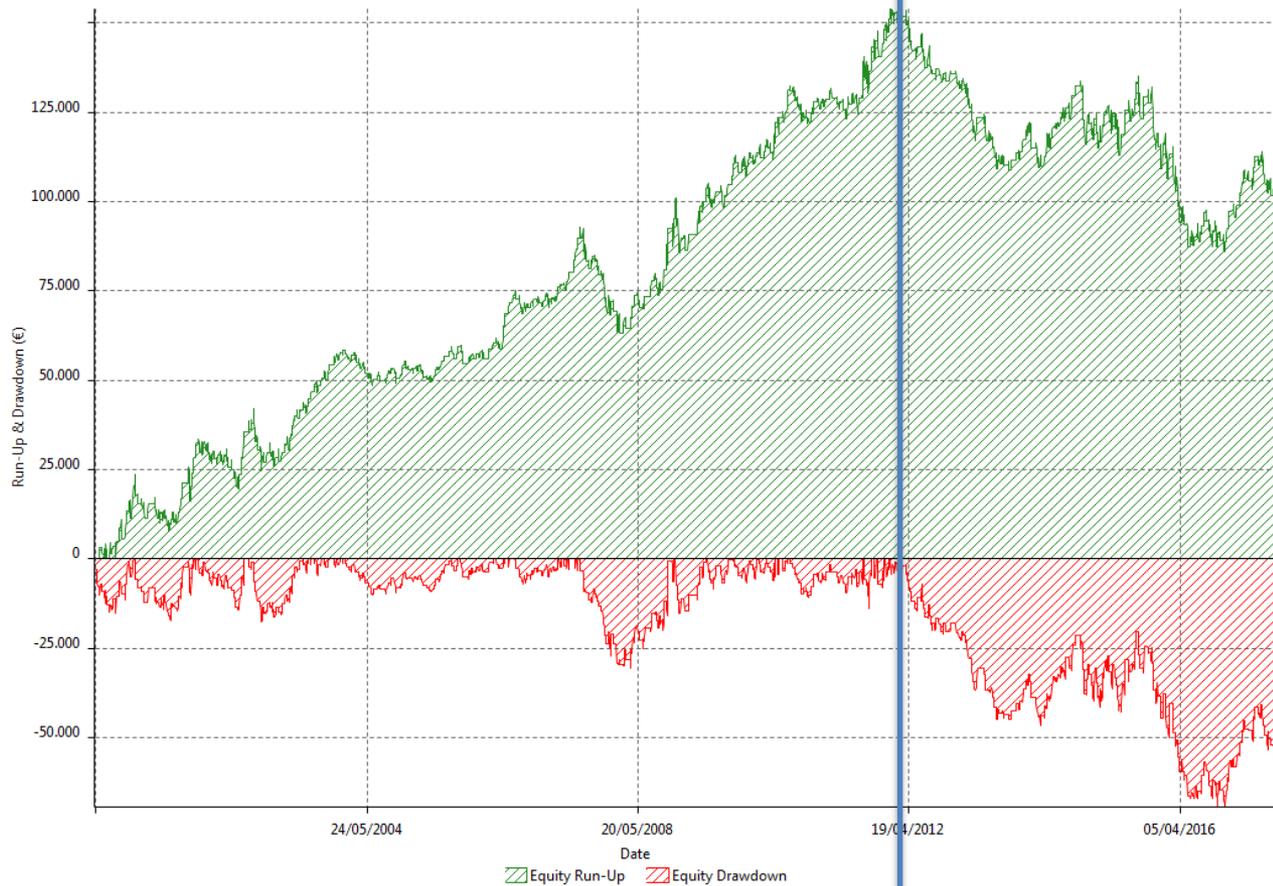
Cosa non vogliamo!

Equity Run-up & Drawdown

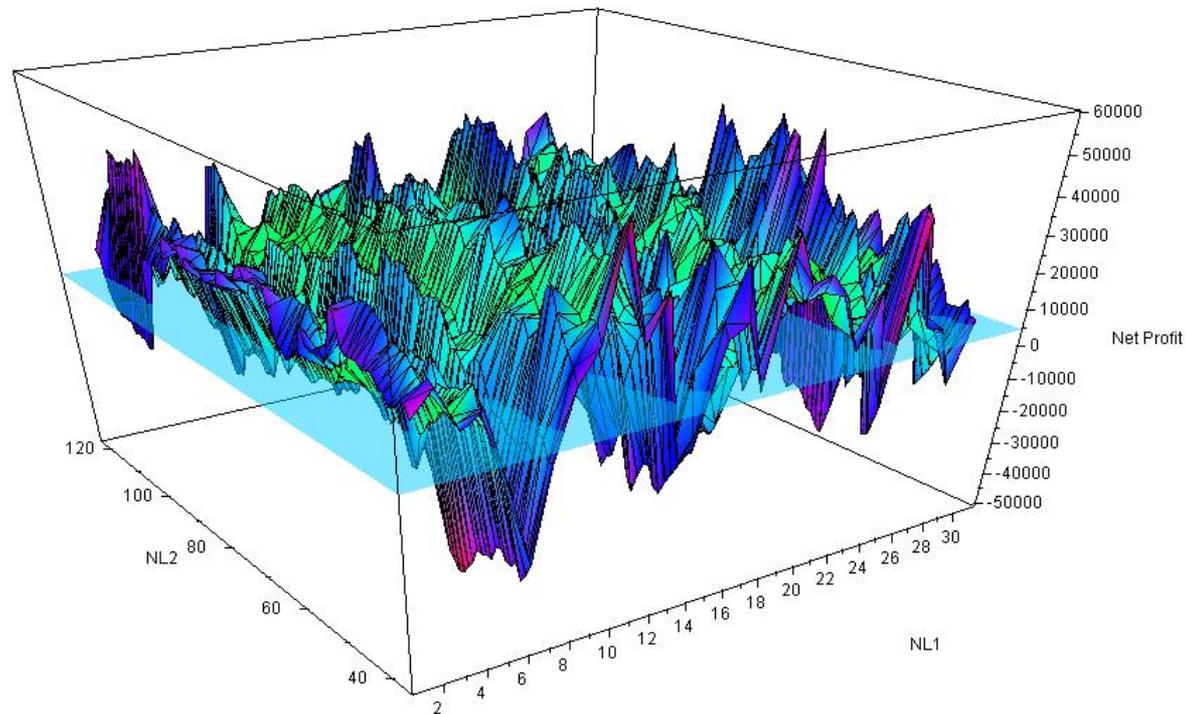


Cosa non vogliamo!

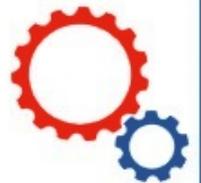
Equity Run-up & Drawdown



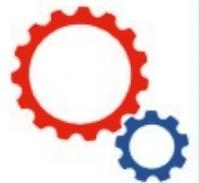
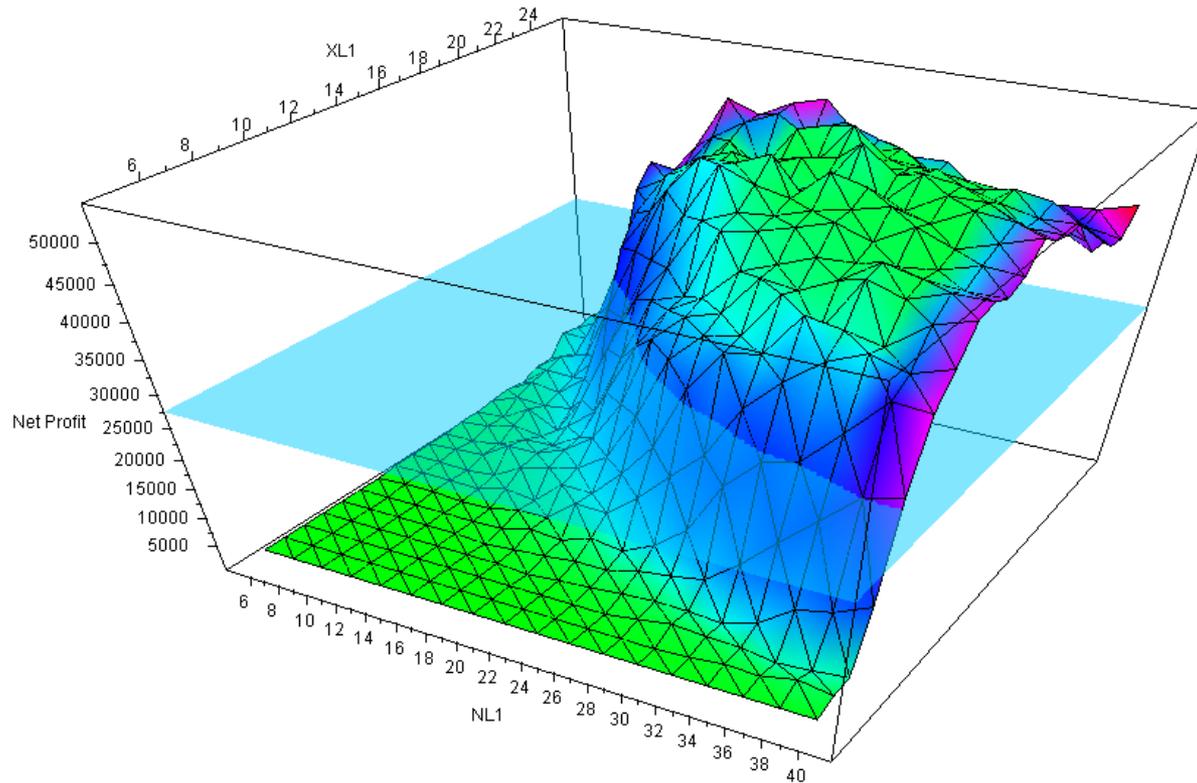
Instabilità



Per VALUTARE la stabilità del
trading system



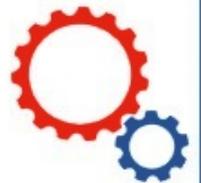
Area stabile



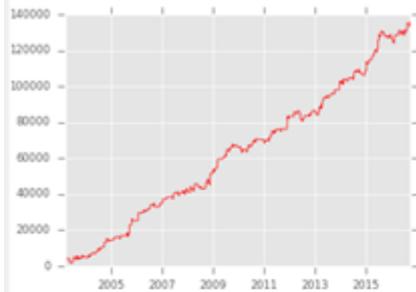
Perché si effettua la
validazione?



Grado di aspettativa del sistema



Equities Overview Equities Summary Montecarlo Overview Montecarlo Summary



Equity Summary

Overall

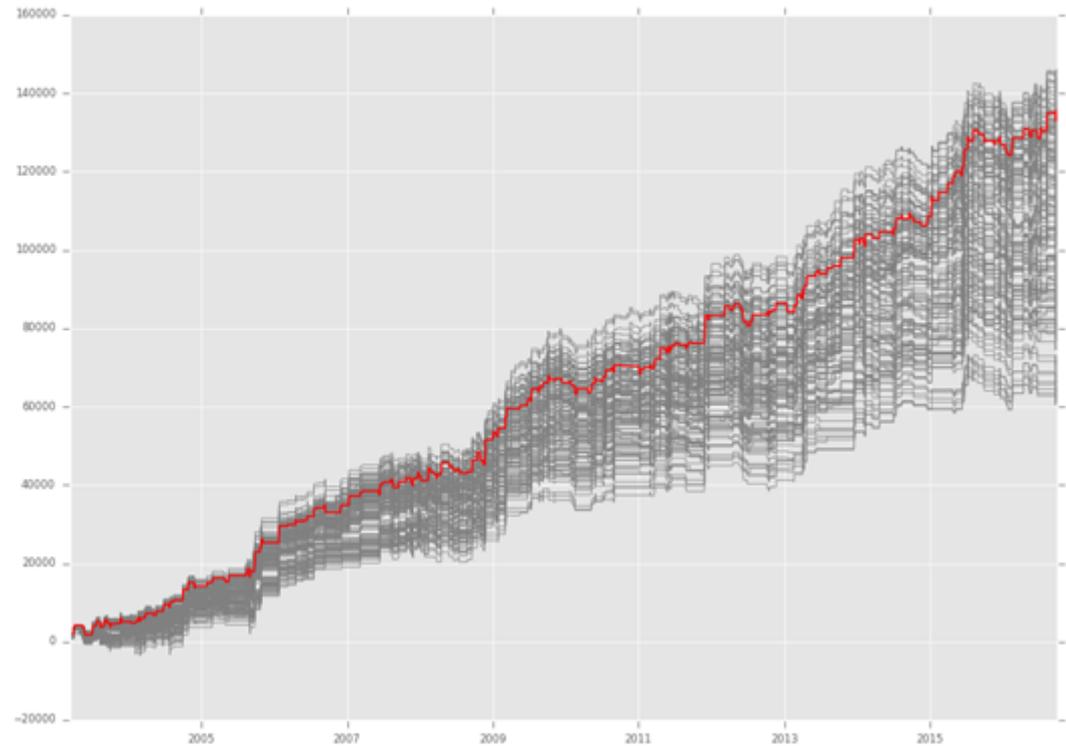
Profit: € 135605.00
 Max Drawdown: € -6440.00
 Average Trade: € 455.05
 Return/Max DD: 21.06
 Profit Factor: 1.38
 Total Trades: 298.00

Winning Trades

Total Trades: 173.00
 Gross Profit: € 230570.00
 Largest Win: € 6267.50
 Average Win: € 1332.77

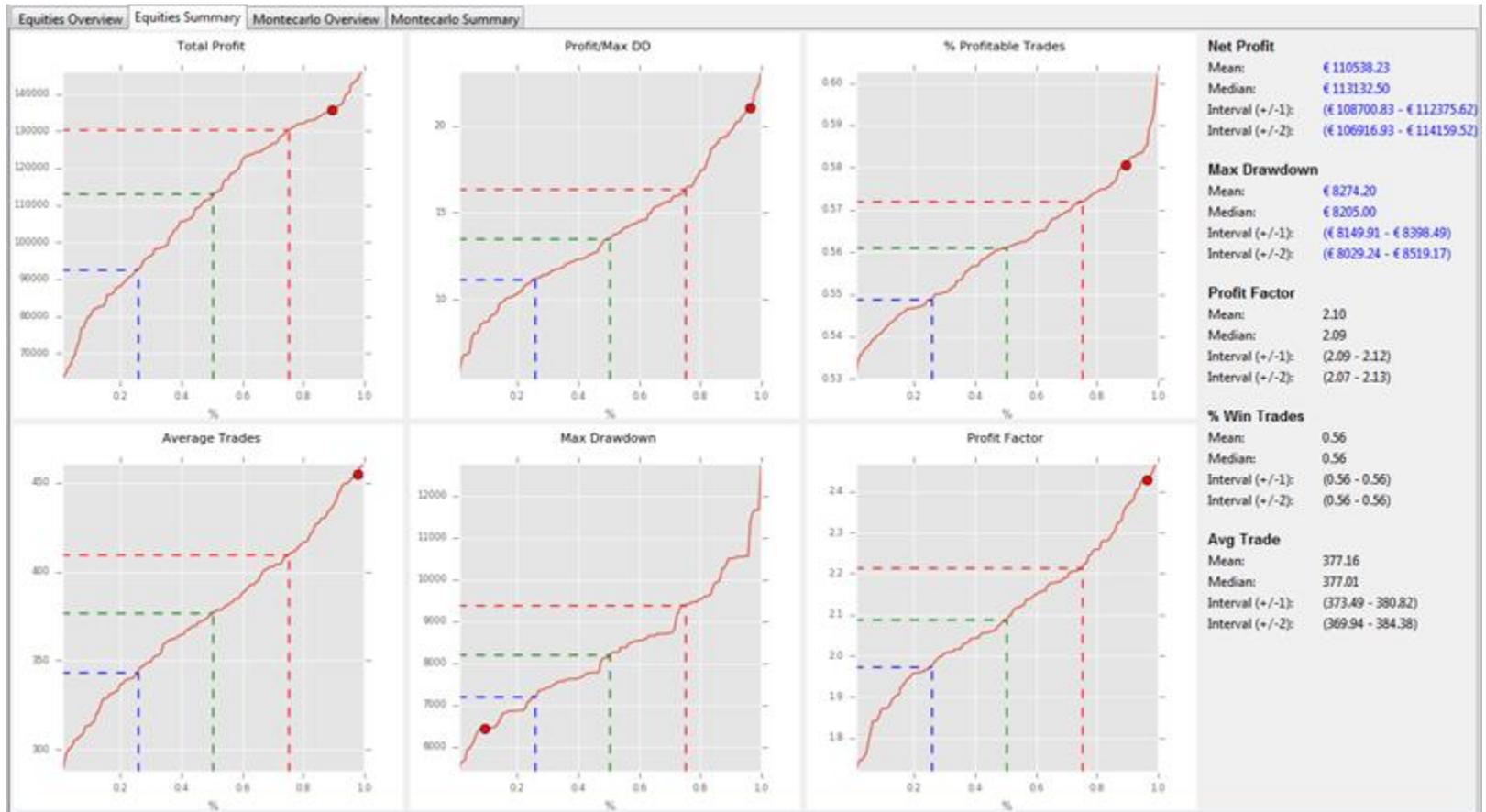
Losing Trades

Total Trades: 125.00
 Gross Profit: € -94965.00
 Largest Loss: € -2040.00
 Average Loss: € -759.72



Rappresentazione delle equity line ottenute con le combinazioni di inputs random tramite l'ottimizzazione di MultiCharts



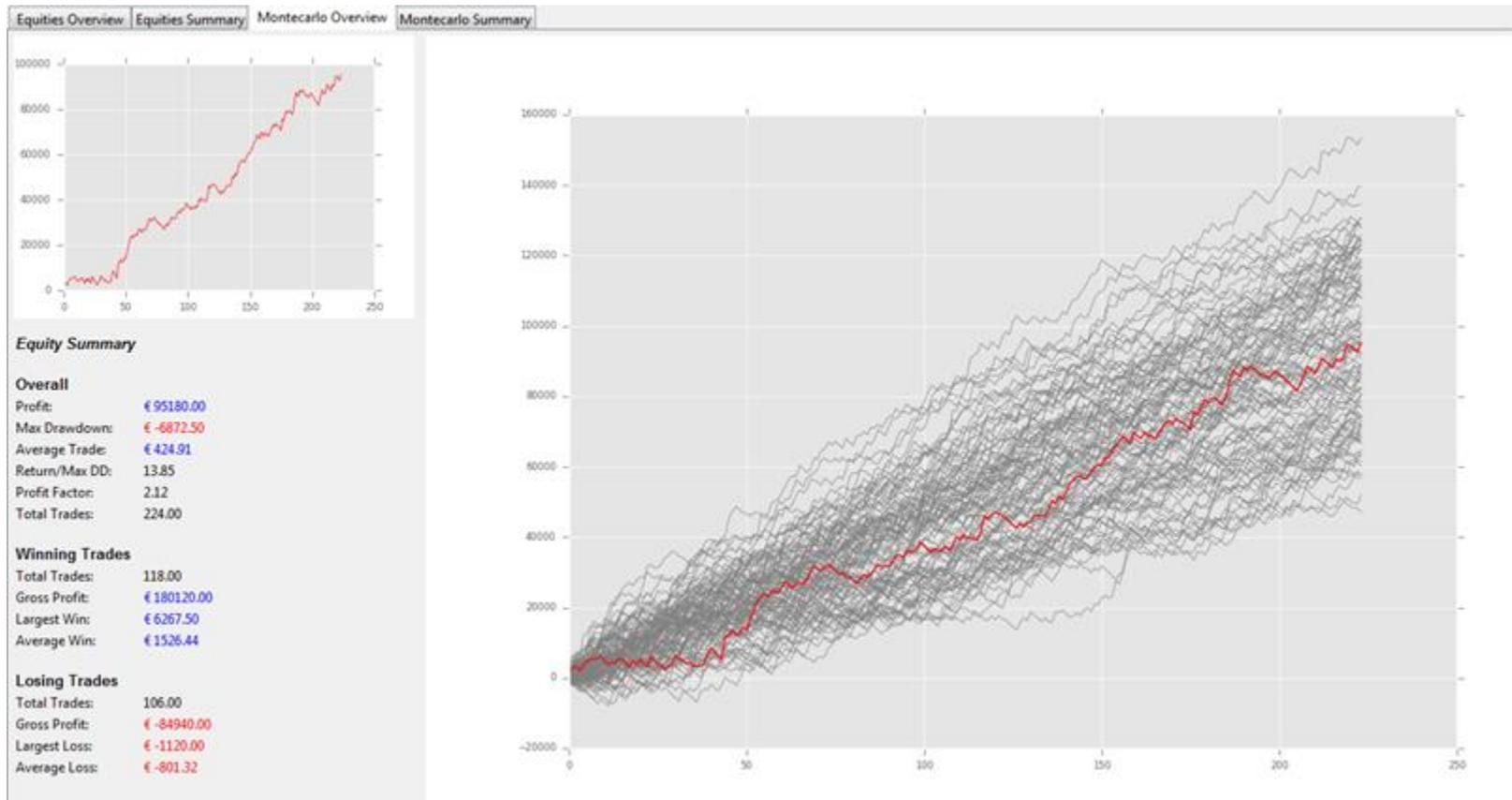


Rappresentazione grafica delle metriche ottenute con le combinazioni di inputs random tramite l'ottimizzazione di MultiCharts



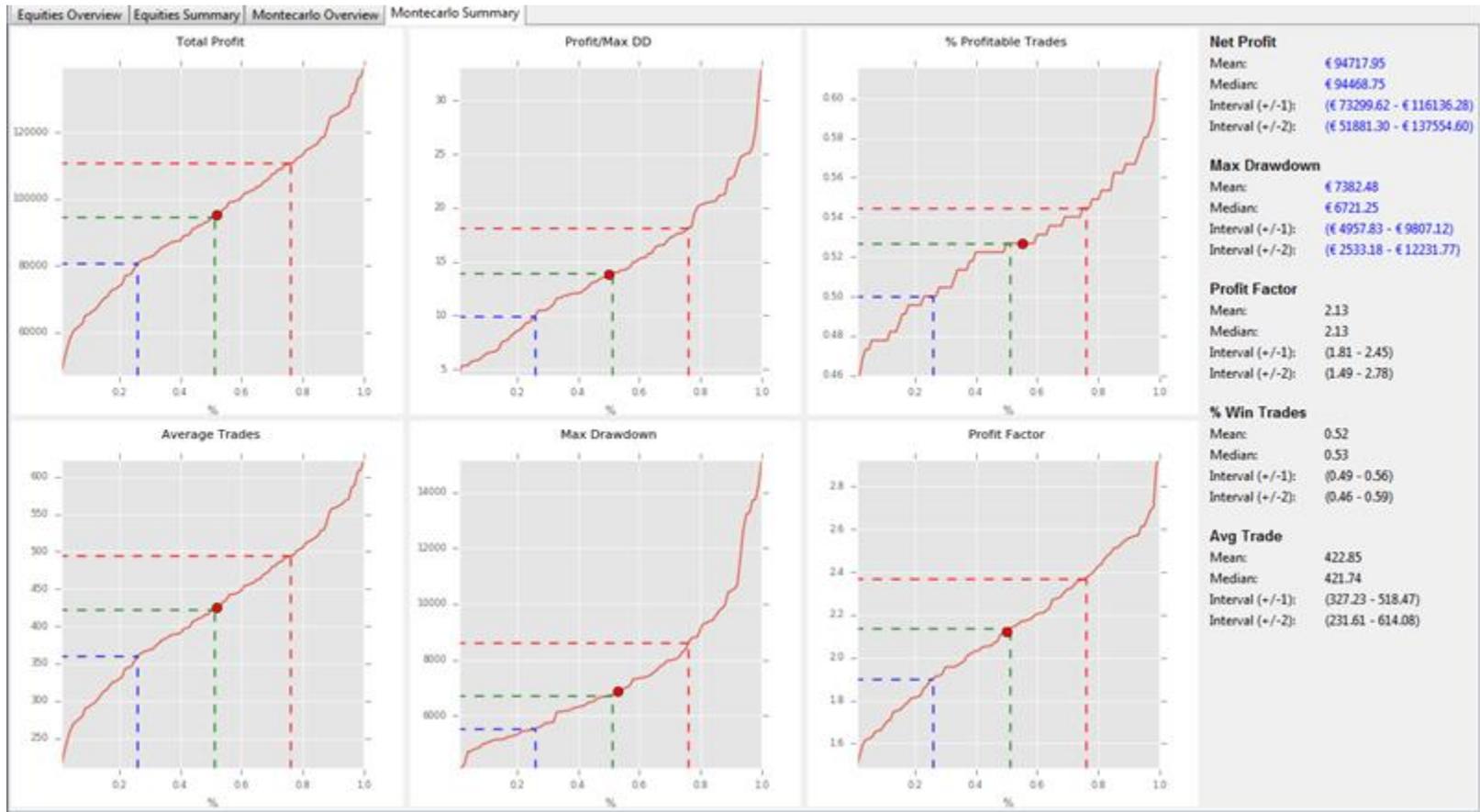
Per VALUTARE la stabilità del
trading system (ulteriore stress
test)



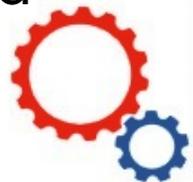


Rappresentazione delle equity line ottenute dalla Montecarlo Analisi calcolata sui trades out of sample della WFA del trading system su MultiCharts.





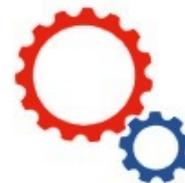
Rappresentazione grafica delle metriche ottenute dalla Monte Carlo Analisi calcolata sui trades out of sample della WFA del trading system su MultiCharts.



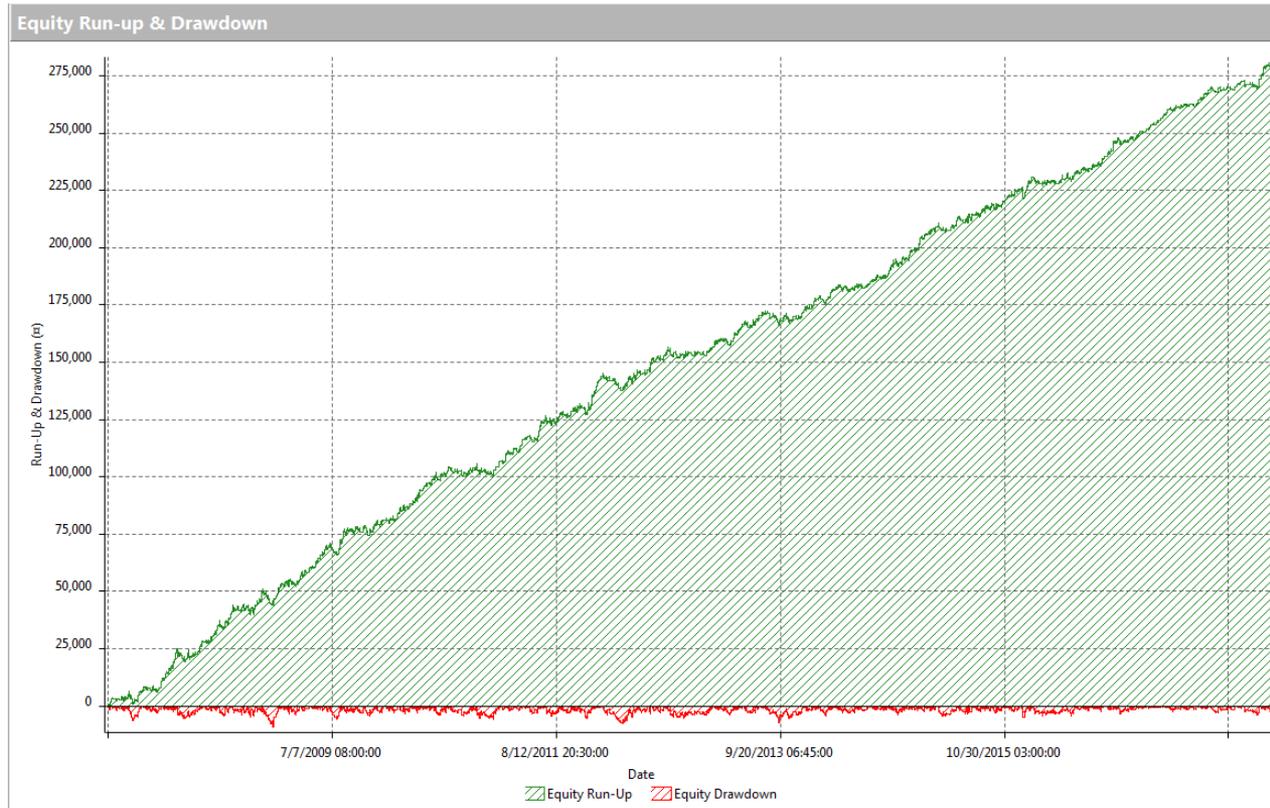
Perché si crea il report di
portafoglio?



Per vedere quanto è bello il
nostro portafoglio!



Report di portafoglio



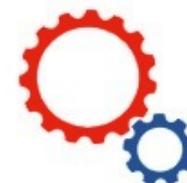
Per valutare la correlazione
dei sistemi e comporre un
portafoglio il più possibile
diversificato



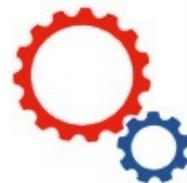
Report di portafoglio

Based on Daily Equity

| | @EC new | @FGBL | @TY | @NQ.D | @CL |
|---------|---------|--------|--------|-------|------|
| @EC new | 1 | 0.02 | 0.02 | 0.08 | 0.08 |
| @FGBL | 0.02 | 1 | (0.08) | 0.01 | 0.03 |
| @TY | 0.02 | (0.08) | 1 | 0.13 | 0.02 |
| @NQ.D | 0.08 | 0.01 | 0.13 | 1 | 0.06 |
| @CL | 0.08 | 0.03 | 0.02 | 0.06 | 1 |



Come si compone il
portafoglio?

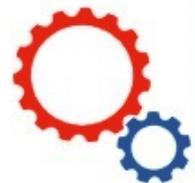
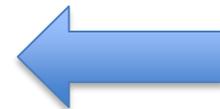


Monitoraggio attivo del performance decay



Performance decay

| | | |
|------------------------|----------|--------|
| Net Profit | 86087,5 | 67800 |
| Drawdown | -10337,5 | -4700 |
| Profit factor | 1,53 | 1,73 |
| Return on Max Drawdown | 8,33 | 14,43 |
| Total trades | 726 | 462 |
| % in the Market | 1,30% | 0,63% |
| % Profitable | 46,56% | 49,78% |
| Average Trade | 118,58 | 146,75 |
| Max Consec. Winners | 7 | 7 |
| Max Consec. Losers | 10 | 8 |
| Largest Consec. Profit | 11062,5 | 4800 |
| Largest Consec. Loss | -5500 | -3875 |



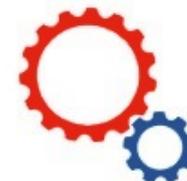
Ranking del portafoglio dei sistemi



Ranking dei sistemi

Ultimi 3 mesi

| Profitto netto / Drawdown | | Fattore di profitto | | Percent profitable | |
|---------------------------|--------|---------------------|------|--------------------|-------|
| CACTUSDAX | 100,00 | PRIME@CL | 3,53 | RSI2@ES | 85,71 |
| VRPVIX | 3,85 | BB@KC | 2,64 | LUPINIIIES | 83,87 |
| PRIME@CL | 3,76 | PRIME@PL | 2,38 | BB@KC | 80,00 |
| PRIME@PL | 3,70 | VRPVIX | 2,34 | PRIME@PL | 72,73 |
| BIGFOOTBUND | 3,28 | ALGOCERTFTMIB2 | 1,92 | 45EMINISP500 | 71,43 |
| ALGOCERTFTMIB2 | 1,98 | PRIME@KC | 1,79 | DRIFTINES | 70,00 |
| BRUNCHFTMIB | 1,82 | BIGFOOTBUND | 1,72 | PRIME@KC | 62,50 |
| BB@KC | 1,64 | PRIME@SB | 1,49 | FLIPPERIIDAX | 61,54 |
| PATGENBUND | 1,56 | PATGENBUND | 1,47 | 45FESX50 | 61,54 |
| PRIME@KC | 1,18 | BRUNCHFTMIB | 1,44 | PRIME@W | 60,00 |
| BIGFOOTEURUSD | 0,91 | ALGOCERTDAX2 | 1,32 | PRIME@SB | 60,00 |
| BIGFOOTEURJPY | 0,62 | FLIPPERIIBUND | 1,32 | PRIME@CL | 58,33 |
| ALGOCERTDAX2 | 0,60 | DRIFTINES | 1,30 | JUMP@FTMIB | 57,14 |
| PRIME@OJ | 0,58 | PRIME@OJ | 1,29 | BBKINGFTMIB | 57,14 |
| JUMP@FTMIB | 0,58 | JUMP@FTMIB | 1,28 | VRPVIX | 56,52 |
| PRIME@SB | 0,49 | LUPINIIIES | 1,28 | PUMPKINDAX | 55,56 |
| LUPINIIIES | 0,47 | LASTMINES | 1,26 | BIGFOOTBUND | 54,55 |
| DRIFTINES | 0,39 | BIGFOOTEURUSD | 1,19 | SPINEUSTX50 | 53,85 |
| FLIPPERIIBUND | 0,39 | ALGOCERTFTMIB | 1,13 | ALGOCERTFTMIB | 52,94 |
| ALGOCERTFTMIB | 0,30 | BIGFOOTEURJPY | 1,12 | PATGENBUND | 52,17 |



Come automatizzare un portafoglio di sistemi?



Risposta

1. Server dedicato o vps (infrastruttura)
2. Controllo infrastruttura (notifiche)
3. Stabilità dell'infrastruttura



Dopo il webinar riceverete
un'email con il link alla
registrazione



Diventare Quant ESTATE

Diventare Quant, inizio del percorso formativo
Installazione piattaforma e prima configurazione dati
Caricamento dati Metastock, Ascii ed infrastruttura informatica
Caricamento dati e lettura del performance report
Interfaccia dati online e infrastruttura informatica
Installazione VPS e importazione primi sistemi di trading
Performance report e prima valutazione di un trading system
Valutazione e stabilità di un trading system



Diventare Quant ESTATE

Ottimizzazione di un trading system

Ottimizzazione ed introduzione a Portfolio Trader

Qualità del backtest e Portfolio Trader

Ottimizzazione di portafoglio e optimization criteria

Funzioni fitness, commissioni e slippage

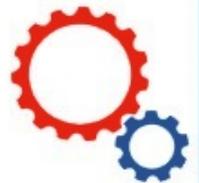
Approfondimento ottimizzazione di un trading system con la WFA

Acquisto licenza lifetime e ripasso processo di ottimizzazione

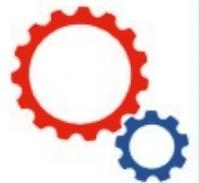


Diventare Quant ESTATE

- Più di 25 ore di lezioni
- Forum sempre attivo
- Esercitazione autotrading



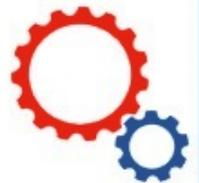
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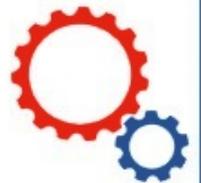


Diventare Quant



2950 euro + IVA

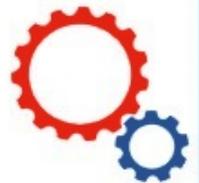




Accesso...

1. Trimestrale a 4Quants
2. Mensile Indipendente di Borsa
3. Mensile alla community

478 euro



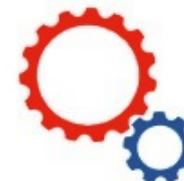
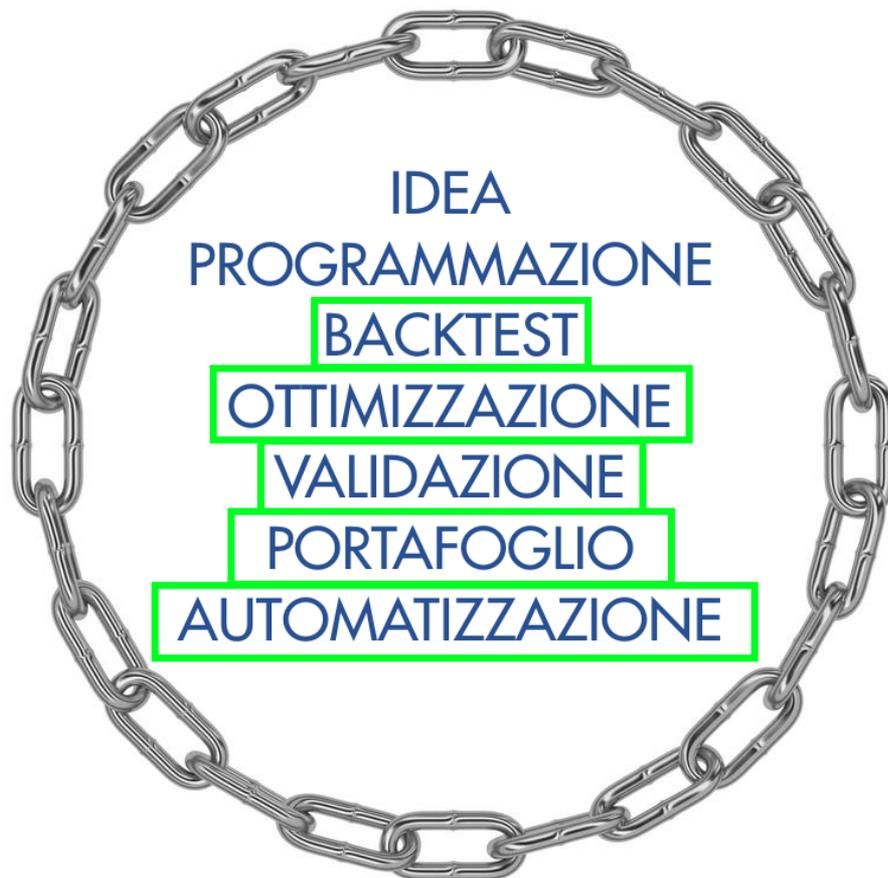


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2. Mensile Indipendente di Borsa
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~~478 euro~~

0 euro !!!





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