



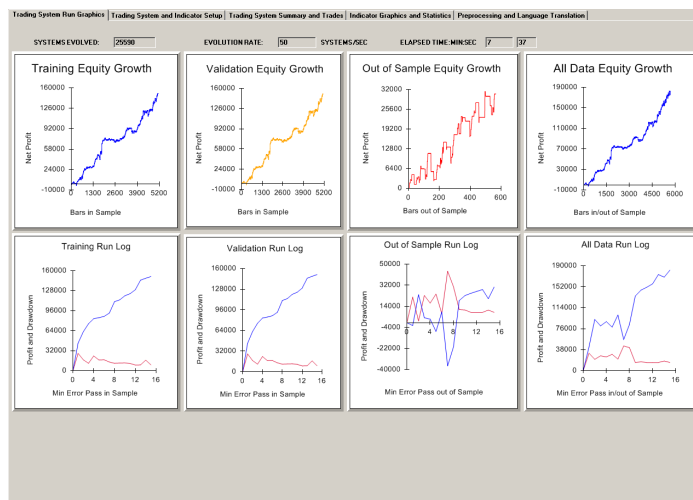
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TSL TRADING SYSTEM DESCRIPTION GENERIC TRADING SYSTEM DISCUSSION

Machine Learning, using an AIM-GP (Automatic Induction of Machine Code with Genetic Programming) creates Trading Systems within TSL. Patterns and Indicators, the kind used to manually design Trading Systems, are preprocessed into facts and used as the Trading System's basic genetic material, referred to as a Terminal Set. The Terminal Set is combined at a very high rate with Functional operators, like addition and multiplication and a Genetic Tournament progresses, rapidly allowing an evolutionary process to occur. Trading Systems that can survive, by for example, making a profit, are allowed to survive while those Trading Systems that do not make a profit are discarded. Usually, within about 50,000 Trading System productions, a viable Trading System emerges.

In TSL, testing on data not used during this evolutionary process is critical. Any mathematical or algorithmic approach, Neural Nets, polynomial regression, etc. can fit a Trading System to data and produce good results. Often, however, applying this same Trading System to new, or Out Of Sample (OOS) data produces poor performance. TSL has several built in features that reduce the potential for this "curve fitting". All Trading Systems developed in TSL must show reasonable OOS performance, or that Trading System or Market may be flawed or too random to create a robust Trading System.



Typical Evolutionary Path

Note: Full reports available at: www.TradingSystemLab.com

TSL typically uses 10 to 20% of the most recent data as OOS data. Reasonable OOS performance, a low Trade to Parameter Ratio and a generally repeatable evolutionary path are indicators that may be predictive of robust Trading System generation.

Trading Systems that have a high Trade to Parameter Ratio (TPR) offer a higher chance for success moving forward. Typically TSL creates Trading Systems with 3 to 10 parameters. A Trade to Parameter ratio of 100 means that you have 100 trades for every parameter in your system. A 100 Trade to Parameter ratio is desirable, while a ratio of 30 may be considered low. The TPR analysis is not an exact science, however. If your individual market has a TPR of 30, but your Trading System performs well on many other markets, your evolved choice of inputs or logic may be robust.

HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS ACHIEVED BY ANY PARTICULAR TRADING PROGRAM.

ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCE RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK, AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.