**References**

[1] "Triennial Central Bank Survey of foreign exchange and derivatives market activity in 2013," Bank For International Settlement, 2013. [Online]. Available: https://www.bis.org/publ/rpfx13.htm.

[2] G. S. Atsalakis and K. P. Valavanis, "Surveying stock market forecasting techniques – Part II: Soft computing methods," *Expert Systems with Applications,* p. 5932–5941, 2009.

[3] K. Y. Huang, T. C. Chang and J. H. Lee, "A hybrid model to improve the capabilities of forecasting based on GRA and ANN theories," in *Proc. of the IEEE Int. Conf. on Grey Systems*, Nanjing, 2009.

[4] J. Yao, C. L. Tan and H. L. Poh, "Neural Networks for technical analysis: a study on KLCI," *Int. Journal of Theoretical and Applied Finance,* vol. 2, no. 2, pp. 221-241, 1999.

[5] L. Yu, S. Wang and K. K. Lai, "A Hybrid GA-Based SVM Model for Foreign Exchange Market Tendency Exploration," in *Foreign-exchange-rate forecasting with artificial neural networks*, F. . S. Hillier, Ed., New York, Springer Science+Business Media, 2007, pp. 155-173.

[6] L. Yu, S. Wang and K. K. Lai, "Forecasting Foreign Exchange Rates with a Multistage Neural Network Ensemble Model," in *Foreign exchange rate forecasting with artificial neural networks*, F. S. Hillier, Ed., New York, Springer Science+Business Media, 2007, pp. 177-202.

[7] L. Yu, S. Wang and K. K. Lai, "A novel nonlinear ensemble forecasting model incorporating GLAR and ANN for foreign exchange rates," *Computers & Operations Research,* vol. 32, no. 10, pp. 2523-2541, October 2005.

[8] B. G. and M. , "efficient market hypothesis," *The New Palgrave: A Dictionary of Economics,* vol. 2, pp. 120-123, 1987.

[9] "Most Traded Pairs," investopedia, 2013. [Online]. Available: http://www.investopedia.com/walkthrough/forex/getting-started/pairs.aspx.

[10] "forex," worldmarkethours, 2013. [Online]. Available: http://www.2013.worldmarkethours.com/Forex/index.htm.

[11] E. Bodt, J. Rynkiewicz and M. Cottrell, "Some known facts about financial data," *European symposium on artificial neural networks,* vol. 25, no. 27, pp. 223-236, 2001.

[12] . E. Fama, " Random Walks In Stock Market Prices," *Financial Analysts Journal,* vol. 21, pp. 55-59, 1965.

[13] C. J. Lu, T. S. Lee and C. C. Chiu, "Financial time series forecasting using Independent Component Analysis and Support Vector Regression," *Decision Support Systems,* vol. 47, p. 115–125, February 2009.

[14] R. Ghazali, A. J. Hussain and P. Liatsis, "Dynamic Ridge Polynomial Neural Network: Forecasting the univariate non-stationary and stationary trading signals," *Expert Systems with Applications,* vol. 38, p. 3765–3776, 2011.

[15] A. Kirman, "Economic theory and the crisis," 14 November 2009. [Online]. Available: http://www.voxeu.org/index.php?q=node/4208.

[16] P. Tenti, "Forecasting foreign exchange rates using recurrent neural networks," *AppliedArtificial Intelligence,* vol. 10, pp. 567-581, 1996.

[17] W. Brock, H. and B. LeBaron, "Nonlinear dynamics, chaos, and instability.," 1991.

[18] P. Grauwe de, H. Dewachter and M. Embrechts, " Exchange rate theory. Chaotic models of foreign exchange markets," *Journal of Economic Behavior & Organization.,* vol. 25, no. 3, p. 473–475, 1994.

[19] H. Fang, L. S. Lai and M. Lai, "Fractal structure in currency futures price dynamics," *The Journal of Futures Markets,* vol. 14, no. 2, pp. 169-181, 1994.

[20] L. Yu, S. Wang, W. Huang and K. K. Lai, "Are foreign exchange rates predictable-a survay from Artificial Neural Network perspective," *Scientific Inquiry,* vol. vol. 8, no. 2, p. 207 – 228, 2007.

[21] [Online]. Available: http://www.metaquotes.net.

[22] C. J. Lu, "Integrating Independent Component Analysis-based denoising scheme with Neural Network for stock price prediction," *Expert Systems with Applications,* vol. 37, p. 7056–7064, 2010.

[23] Z. Yudong and W. Lenan, "Stock market prediction of S&P 500 via combination of improved BCO approach and BP Neural Network," *Expert Systems with Applications,* vol. 36, p. 8849–8854, 2009.

[24] S. H. Hsu, J. J. P. A. Hsieh, T. C. Chih and K. C. Hsu, "A two-stage architecture for stock price forecasting by integrating Self-organizing Map and Support VectorRegression," *Expert Systems with Applications,* vol. 36, p. 7947–7951, 2009.

[25] A. U. Khan, T. K. Bandopadhyaya and S. Sharma, "SOM and Technical Indicators based Hybrid Model gives better returns on investments as compared to BSE-30 Index," in *Proc. of the 3rd Int. Conf. on Knowledge Discovery and Data Mining*, Phuket, 2010.

[26] L. J. Cao and F. E. H. Tay, "Support Vector Machine With adaptive parameters in financial time series forecasting," *IEEE transactions on neural networks,* vol. 14, no. 6, pp. 1506-1519, November 2003.

[27] M. S. C. December 2007. [Online]. Available: http://championship.mql4.com/2007/users/Better.

[28] J. F. Chang, C. W. Chang and W. Y. Tzeng, "Forecasting exchange rates using integration of Particle Swarm Optimization and Neural Networks," in *Proc. of the 4th Int. Conf. on Innovative Computing, Information and Control*, Kaohsiung, 2009.

[29] S. Hayking, "Multilayer perceptrons," in *Neural Networks: A comprehensive foundation, 2nd ed*, NJ, Prentice Hall, 1999, pp. 211-212.

[30] Y. K. Kwon and B. R. Moon, "A hybrid neurogenetic approach for stock forecasting," *IEEE Transactions On Neural Networks, Vol. 18, No. 3, May 2007,* vol. 18, no. 3, pp. 851-864, may 2007.

[31] J. Yao and C. L. Tan, "A case study on using Neural Networks to perform technical forecasting of forex," *Neurocomputing,* vol. 34, pp. 79-98, 2000.

[32] B. Qian and K. Rasheed, "Foreign Exchange Market Prediction with multiple classifiers," *Journal of Forecasting,* vol. 29, p. 271–284, 2010.

[33] E. W. Saad, D. V. Prokhorov and D. C. Wunsch, "Comparative study of stock trend prediction using Time Delay, Recurrent and Probabilistic Neural Networks," *IEEE transactions on neural networks,* vol. 9, no. 6, pp. 1456-1470, November 1998.

[34] H. M. Feng and H. C. Chou, "Evolutional RBFNs prediction systems generation in the applications of financial time series data," *Expert Systems with Applications,* vol. 38, p. 8285–8292, 2011.

[35] F. Hillier , Ed., "Forecasting Foreign Exchange Rates Using an Adaptive Back-Propagation Algorithm with Optimal Learning Rates and Momentum Factors," in *Foreign exchange rate forecasting with artificial neural networks*, New York, Springer Science+Business Media, 2007, pp. 65-84.

[36] L. Yu, S. Wang and K. K. Lai, "An Online BP Learning Algorithm with Adaptive Forgetting Factors for Foreign Exchange Rates Forecasting," in *Foreign exchange rate forecasting with artificial neural networks*, F. S. Hillier, Ed., New York, Springer Science+Business Media, 2007, pp. 87-100.

[37] L. Yu, S. Wang and L. K. K. Kin, "An Improved BP Algorithm with Adaptive Smoothing Momentum Terms for Foreign Exchange Rates Prediction," in *Foreign exchange rate forecasting with artificial neural networks*, F. S. Frederick, Ed., New York, Springer Science+Business Media, 2007, pp. 101-118.

[38] K. J. Kim, "Artificial Neural Networks with evolutionary instance selection for financial forecasting," *Expert Systems with Applications,* vol. 30, p. 519–526, 2006.

[39] P. Wang, "Pricing currency options with Support Vector Regression and Stochastic Volatility Model with jumps," *Expert Systems with Applications,* vol. 38, pp. 1-7, 2011.

[40] M. Mehrara, A. Moeini, M. Ahrari and A. Ghafari, "Using technical analysis with Neural Network for forecasting stock price index in Tehran Stock Exchange," *Middle Eastern Finance and Economics,* no. 6, pp. 51-61, 2010.

[41] Z. Liao and J. Wang, "Forecasting model of global stock index by stochastic time effective Neural Network," *Expert Systems with Applications,* vol. 37, p. 834–841, 2010.

[42] Y. H. Wang, "Nonlinear Neural Network forecasting model for stock index option price: Hybrid GJR–GARCH approach," *Expert Systems,* vol. 36, p. 564–570, 2009.

[43] K. J. Kim, "Financial time series forecasting using Support Vector Machines," *Neurocomputing,* vol. 55, p. 307–319, March 2003.

[44] W. Shen, X. Guo, C. Wu and D. Wu, "Forecasting stock indices using radial basis function Neural Networks optimized by Artificial Fsh Swarm Algorithm," *Knowledge Based Systems,* vol. 24, p. 378–385, 2011.

[45] L. P. Ni, Z. W. Ni and Y. Z. Gao, "Stock trend prediction based on fractal feature selection and Support Vector Machine," *Expert Systems with Applications,* 2010.

[46] C. L. Huang and C. Y. Tsai, "A hybrid SOFM-SVR with a filter-based feature selection for stock market forecasting," *Expert Systems with Applications,* vol. 36, p. 1529–1539, 2009.

[47] T. J. Hsieh, H. F. Hsiao and W. C. Yeh, "Forecasting stock markets using Wavelet Transforms and Recurrent Neural Networks: An integrated system based on artificial bee colony algorithm," *Applied Soft Computing,* vol. 11, p. 2510–2525, October 2010.

[48] S. C. Hui, M. T. Yap and P. Prakash, "A hybrid time lagged network for predicting stock prices," *Int. Journal of the Computer, the Internet and Management,* vol. 8, 2000.

[49] E. L. de Faria, J. L. Gonzalez, J. T. P. Cavalcante, M. P. Albuquerque and M. P. Albuquerque, "Predicting the Brazilian stock market through Neural Networks and Adaptive Exponential Smoothing methods," *Expert Systems with Applications,* vol. 36, p. 12506–12509, 2009.

[50] L. Yu, S. Wang and K. K. Lai, "Hybridizing BPNN and Exponential Smoothing for Foreign Exchange Rate Prediction," in *Foreign exchange rate forecasting with artificial neural networks*, F. . S. Hillier, Ed., New York, Springer Science+Business Media, 2007, pp. 121-131.

[51] R. Gençay and R. Gibson, "Model risk for European style Stock Index Options," *IEEE transactions on neural networks,* vol. 18, no. 1, pp. 193-202, January 2007.

[52] L. Yu, S. Wang and K. K. Lai, "A Neural Network-based nonlinear metamodeling approach to financial time series forecasting," *Applied Soft Computing,* vol. 9, p. 563–574, August 2009.

[53] S. C. Huang and T. K. Wu, "Integrating Recurrent SOM with Wavelet-based kernel partial least square regressions for financial forecasting," *Expert Systems with Applications,* vol. 37, p. 5698–5705, 2010.

[54] S. C. Huang, P. J. Chuang, C. F. Wu and H. J. Lai, "Chaos based Support Vector Regressions for exchange rate forecasting," *Expert Systems with Applications,* vol. 37, p. 8590–8598, 2010.

[55] J. Kamruzzaman and R. A. Sarker, "Forecasting of currency exchange rates using ANN: a case study," *Neural Networks and Signal Processing,* vol. 1, pp. 793 - 797, April 2004.

[56] X. Ma, C. Zhou and I. J. Kemp, "Automated Wavelet Selection and Thresholding for PD Detection," *IEEE Electrical Insulation Magazine,* vol. 18, no. 2, pp. 37-45, 2002.

[57] C. L. Dunis and M. Williams, "Modelling and Tradingthe EUR/USD Exchange Rate:Do Neural Network Models Perform Better?," 2002.

[58] J. Shlens, "A Tutorial on Principal Component Analysis," New York, 2009.

[59] A. Hyvärinen and E. Oja, "Independent Component Analysis:Algorithms and Applications," *Neural Networks,* vol. 13, pp. 411-430, 2000.

[60] T.-W. Lee, T-F. , Cardoso, E. Oja and S.-I. Amari, "MISEP — Linear and Nonlinear ICA Based on Mutual Information," *Journal of Machine Learning Research 4,* pp. 1297-1318, 2003.

[61] R. Singh, R. Singh and R. E. Vasquez, "Comparison of Daubechies, Coiflet, and Symlet for edge detection," *Visual Information Processing,* vol. 6, July 1997.

[62] G. and A. , "An introduction to wavelets," *Computational Science & Engineering, IEEE,* vol. 2, no. 2, pp. 50 - 61 , 1995.

[63] J. N. L. and R. W. K. , "Automatic extraction and identification of chart patterns towards financial forecast," *Applied Soft Computing,* vol. 7, no. 4, p. 1197–1208, 2007.

[64] T. M. Cover, "Geometrical and statistical properties of systems of linear inequalities with application in pattern recognition," *IEEE Transactions on Electronic Computers,* Vols. EC-14, pp. 326-334, 1965.

[65] V. N. Vapnic and A. Y. Chervonenkis, "On the uniform convergence of relative frequencies of events to their probabilities," *Theory of Probability and its Applications,* vol. 16, no. 2, pp. 264-280, 1971.

[66] S. Hayking, "Learning processes," in *Neural Networks: A comprehensive foundation, 2nd ed*, NJ, Prentice Hall, 1999, pp. 97-98.

[67] S. Geman, E. Bienenstock and R. Doursat, "Neural networks and the bias/variance dilemma," *Neural Computation,* vol. 4, pp. 1-58, 1992.

[68] S. Hayking, "Committee Machines," in *Neural Networks: A comprehensive foundation, 2nd ed*, NJ, Prentice Hall, 1999.

[69] J. B. MacQueen, "Some Methods for classification and Analysis of Multivariate Observations," in *Proceedings of 5-th Berkeley Symposium on Mathematical Statistics and Probability*, Berkeley, 1967.

[70] K. Ron, "A study of cross-validation and bootstrap for accuracy estimation and model selection," *Proceedings of the Fourteenth International Joint Conference on Artificial Intelligence* , vol. 2, no. 12, p. 1137–1143, 1995.

[71] [Online]. Available: http://www.metatrader4.com/.

# Appendix A

Summary of the all revived articles are presented here

**Table A.1 - Summery of the revived articles**

| Ar-ticle | Data preprocessing | Network type | Training method | Benchmark models | Performance measures |
|---|---|---|---|---|---|
| [3] | Grey Relational Analysis | FFANN | BP | ANN, ANN / Grey model (1, N) | RMSE |
| [4] | Rescaled range analysis+ Normalizing+ sensitive analysis | FFANN | BP | ARIMA, 3-Benchmark models for profit calculation | NMSE, Sign statistics |
| [5] | GA | SVM | SVR | RW ,ARIMA , linear discriminant analysis, BPANN, SVM, GA-SVM | Hit ratio |
| [6] | Normalizing + Interval variation | Ensemble SVM | Proposed multi-stage SVM-based nonlinear ensemble model | Ensemble models trained using simple averaging , Simple MSE, Stacked regression, Variance-based weighting , Artificial neural network | RMSE |
| [7] | Normalize | GLAR+PCA + FFANN-ensemble | BP | Generalized auto regression(GLAR), ANN, Hybrid, Equal weights, Minimum error | NMSE, DS |
| [13] | Normalize, ICA | SVM | Support vector regression(SVR) | Random walk (RW), SVR | RMSE, NMSE MAD, DS, correct down trend (CD) , correct up trend (CP) |
| [14] | Normalized | Dynamic Ridge Polynomial ANN | Constructive learning algorithm | Multilayer perceptron (MLP),Functional Link Neural Network (FLNN), Pi-Sigma Neural Network (PSNN), Ridge Polynomial Neural Network (RPNN) | NMSE, Annualized Return |
| [23] | - | FFANN | Improved bacterial chemotaxis optimization (IBCO)+BP | BPANN | MSE |
| [24] | Normalize, Self-organizing feature maps | SVM | SVR | SVR | NMSE,MAE, DS,WDS |
| [25] | Kohonen self-organizing map | FFANN | BP | BSE-30 SENSEX | Not specified |

| [26] | Z-score normalization method | SVM | Adaptive SVR | Three-layer BP neural network, Regularized RBF neural network | NMSE, DS,MAE |
|---|---|---|---|---|---|
| [28] | Particle swarm optimization + normalize | FFANN | BP | ANN models with different indicators as inputs | MSE, RMSE, MAE |
| [30] | Euclidean distance based partitioning | Recurrent ensemble model | Genetic algorithm (GA) | Genetic programming prediction, SVM | Frequency of correct prediction |
| [31] | Rescaled range analysis | FFANN | BP | Auto regression integrated moving average(ARIMA) | NMSE, Gradient |
| [32] | Normalizing+Hurst exponent | Ensemble | vary | FFANN, K-nearest neighbor, Decision tree, Native Bayesian classifier | Average error rate |
| [33] | Phase Diagrams, Correlation Dimension, Lyapunov exponent | Probabilistic neural network TDNN,RNN | Temporal BP, Extended Kalman filter, | Fisher linear classifier | False alarms |
| [34] | Step wise regression analysis +Normalizing+ Dynamic learning algorithm based clustering | RBF | Particle-swarm optimization (PSO)+adaptive recursive least-squares | Type 2 fuzzy time series model, Fuzzy time series model, Fuzzy dual-factor time-series | MAD,MAPE, DS,CP,CD |
| [35] | Auto-regression testing | FFANN | Adaptive BP | Standard BP, LM-based learning, Extended Kalman filter (EKF),BP with optimal learning rates | NMSE, Directional change statistics (DS) |
| [36] | Auto-regression testing | FFANN | BP Learning Algorithm with Adaptive, Forgetting Factors | Batch learning, EKF-based learning,Levenberg-Marquardt(LM)based learning, Standard BPNN | NMSE,DS |
| [37] | Auto-regression testing | FFANN | BP + AdaptiveSmoothing + Momentum Terms | Four different networks with modified back propagation for each | MSE |
| [38] | GA based instant selection | FFANN | GA | GA-ANN | Hit ratio |
| [39] | - | StochasticVolatility (SV) model with jumps +SVM | SVR | ANN-SV, Garman–Kohlhagen model | MAE, MAPE |
| [40] | - | ANN | GMDH algorithm | FFANN | RME, MAPE,DS, Profitability |

| | | | | | |
|---|---|---|---|---|---|
| [41] | Normalize | FFANN | BP+ Stochastic time effective function | - | MSE |
| [42] | Grey-GJR–GARCH | FFANN | BP | - | RMSE , MAE, MAPE |
| [43] | Normalize | SVM | SVR | BPANN, Case based reasoning | Hit ratio |
| [44] | Extract indicators with better performance | RBF | Artificial fish swarm algorithm +K means clustering | RBF optimized by GA ,PSO, ARIMA,ANN,SVM | Error ratio |
| [45] | Mean removal | SVM | SVR | 5 SVM based feature selection methods | DS |
| [46] | Normalize + Self-organizing feature maps | SVM | SVR + grid search | Single SVR | MSE, MAE, MAPE |
| [47] | Wavelet transform | RNN | artificial bee colony algorithm(ABC) | BP-ANN, conventional ANN optimized by the ABC algorithm, two conventional fuzzy time-series models | RMSE, MAE, MAPE, Theil'si-nequality coefficient |
| [48] | Normalization + Kohonen SOM | FFANN | temporal BP | FFANN, Highly Granular Unsupervised time Lagged Network | Profit |
| [49] | - | FFANN | BP | Adaptive exponential smoothing | RMSE, Correct tendencies number |
| [50] | - | Exponential Smoothing +FFANN | BP | BPNN, Exponential Smoothing Forecast model | RMSE, DS |
| [51] | GARCH(1,1) Volatility | FFANN | Conjugate gradient based method | BS model with historical volatility ,BS model with GARCH(1,1), SV, SVJ | Average absolute and average squared errors |
| [52] | Proposed interval sampling method | FFANN | PCA+Meta-modeling | ARIMA,FNN,SVM, 4 meta-models | NRMSE, DS |
| [53] | Recurrent Self-Organizing Map + Wavelet transform | kernel partial least square regressions | - | ANN, SVMs, Generalized autoregressive conditional heteroskedasticity (GARCH) | RMSE |
| [54] | Chaos-based delay co-ordinate embedding | SVM | SVR | Pure SVR, Chaos-BPNN, BPNN | MSE, RMSE, MAE |

# Appendix B

This includes the first hundred orders of EUR/USD 2009. S/L indicates Stop Loss value and T/P indicates Take Profit level.

**Table B.1-First 100 orders of EUR/USD trading for year 2009**

| # | Time | Type | Order | Size | Price | S / L | T / P | Profit | Balance |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 2009.01.05 20:01 | sell | 1 | 1.00 | 1.35959 | 0.00000 | 1.35851 | | |
| 2 | 2009.01.05 20:02 | t/p | 1 | 1.00 | 1.35851 | 0.00000 | 1.35851 | 108.00 | 10108.00 |
| 3 | 2009.01.05 20:02 | sell | 2 | 1.00 | 1.35822 | 0.00000 | 1.35712 | | |
| 4 | 2009.01.05 20:19 | t/p | 2 | 1.00 | 1.35712 | 0.00000 | 1.35712 | 110.00 | 10218.00 |
| 5 | 2009.01.12 03:05 | sell | 3 | 1.00 | 1.34207 | 0.00000 | 1.34055 | | |
| 6 | 2009.01.12 03:29 | t/p | 3 | 1.00 | 1.34055 | 0.00000 | 1.34055 | 152.00 | 10370.00 |
| 7 | 2009.01.12 07:31 | sell | 4 | 1.00 | 1.34040 | 0.00000 | 1.33954 | | |
| 8 | 2009.01.12 07:36 | t/p | 4 | 1.00 | 1.33954 | 0.00000 | 1.33954 | 86.00 | 10456.00 |
| 9 | 2009.01.13 20:16 | sell | 5 | 1.00 | 1.31653 | 0.00000 | 1.31617 | | |
| 10 | 2009.01.14 13:10 | close | 5 | 1.00 | 1.31650 | 0.00000 | 1.31617 | 4.33 | 10460.33 |
| 11 | 2009.01.15 01:46 | buy | 6 | 1.00 | 1.31867 | 0.00000 | 1.31981 | | |
| 12 | 2009.01.15 06:19 | close | 6 | 1.00 | 1.31877 | 0.00000 | 1.31981 | 10.00 | 10470.33 |
| 13 | 2009.01.16 05:46 | buy | 7 | 1.00 | 1.32276 | 0.00000 | 1.32277 | | |
| 14 | 2009.01.16 05:46 | t/p | 7 | 1.00 | 1.32277 | 0.00000 | 1.32277 | 1.00 | 10471.33 |
| 15 | 2009.01.16 05:46 | buy | 8 | 1.00 | 1.32302 | 0.00000 | 1.32372 | | |
| 16 | 2009.01.16 05:50 | t/p | 8 | 1.00 | 1.32372 | 0.00000 | 1.32372 | 70.00 | 10541.33 |
| 17 | 2009.01.21 00:15 | sell | 9 | 1.00 | 1.28729 | 0.00000 | 1.28665 | | |
| 18 | 2009.01.21 00:19 | t/p | 9 | 1.00 | 1.28665 | 0.00000 | 1.28665 | 64.00 | 10605.33 |
| 19 | 2009.01.22 01:03 | buy | 10 | 1.00 | 1.29838 | 0.00000 | 1.29869 | | |
| 20 | 2009.01.22 01:49 | t/p | 10 | 1.00 | 1.29869 | 0.00000 | 1.29869 | 31.00 | 10636.33 |
| 21 | 2009.01.22 01:49 | buy | 11 | 1.00 | 1.29907 | 0.00000 | 1.29984 | | |
| 22 | 2009.01.22 01:50 | t/p | 11 | 1.00 | 1.29984 | 0.00000 | 1.29984 | 77.00 | 10713.33 |
| 23 | 2009.01.28 22:46 | sell | 12 | 1.00 | 1.31566 | 0.00000 | 1.31477 | | |
| 24 | 2009.01.28 22:54 | t/p | 12 | 1.00 | 1.31477 | 0.00000 | 1.31477 | 89.00 | 10802.33 |
| 25 | 2009.02.02 20:15 | buy | 13 | 1.00 | 1.28410 | 0.00000 | 1.28609 | | |
| 26 | 2009.02.03 00:53 | close | 13 | 1.00 | 1.28411 | 0.00000 | 1.28609 | -0.73 | 10801.60 |
| 27 | 2009.02.04 21:04 | sell | 14 | 1.00 | 1.28468 | 0.00000 | 1.28340 | | |
| 28 | 2009.02.04 21:17 | t/p | 14 | 1.00 | 1.28340 | 0.00000 | 1.28340 | 128.00 | 10929.60 |
| 29 | 2009.02.09 03:15 | buy | 15 | 1.00 | 1.29350 | 0.00000 | 1.29446 | | |
| 30 | 2009.02.09 03:22 | t/p | 15 | 1.00 | 1.29446 | 0.00000 | 1.29446 | 96.00 | 11025.60 |
| 31 | 2009.02.10 22:18 | sell | 16 | 1.00 | 1.28935 | 0.00000 | 1.28762 | | |
| 32 | 2009.02.11 00:39 | close | 16 | 1.00 | 1.28933 | 0.00000 | 1.28762 | 3.33 | 11028.93 |
| 33 | 2009.02.13 01:02 | buy | 17 | 1.00 | 1.28944 | 0.00000 | 1.29080 | | |
| 34 | 2009.02.13 03:12 | t/p | 17 | 1.00 | 1.29080 | 0.00000 | 1.29080 | 136.00 | 11164.93 |
| 35 | 2009.02.13 11:02 | sell | 18 | 1.00 | 1.28858 | 0.00000 | 1.28742 | | |
| 36 | 2009.02.13 11:08 | t/p | 18 | 1.00 | 1.28742 | 0.00000 | 1.28742 | 116.00 | 11280.93 |
| 37 | 2009.02.16 18:21 | sell | 19 | 1.00 | 1.27626 | 0.00000 | 1.27446 | | |
| 38 | 2009.02.17 00:26 | close | 19 | 1.00 | 1.27620 | 0.00000 | 1.27446 | 7.33 | 11288.26 |
| 39 | 2009.02.18 02:19 | buy | 20 | 1.00 | 1.26034 | 0.00000 | 1.26228 | | |
| 40 | 2009.02.18 06:22 | close | 20 | 1.00 | 1.26037 | 0.00000 | 1.26228 | 3.00 | 11291.26 |
| 41 | 2009.02.23 06:16 | buy | 21 | 1.00 | 1.28997 | 0.00000 | 1.29084 | | |
| 42 | 2009.02.23 06:17 | t/p | 21 | 1.00 | 1.29084 | 0.00000 | 1.29084 | 87.00 | 11378.26 |
| 43 | 2009.02.23 06:17 | buy | 22 | 1.00 | 1.29113 | 0.00000 | 1.29264 | | |

| 44 | 2009.02.23 06:33 | t/p | 22 | 1.00 | 1.29264 | 0.00000 | 1.29264 | 151.00 | 11529.26 |
|---|---|---|---|---|---|---|---|---|---|
| 45 | 2009.02.23 16:31 | sell | 23 | 1.00 | 1.27260 | 0.00000 | 1.27067 | | |
| 46 | 2009.02.23 19:02 | close | 23 | 1.00 | 1.27258 | 0.00000 | 1.27067 | 2.00 | 11531.26 |
| 47 | 2009.02.24 02:48 | sell | 24 | 1.00 | 1.27039 | 0.00000 | 1.26849 | | |
| 48 | 2009.02.24 15:17 | close | 24 | 1.00 | 1.27038 | 0.00000 | 1.26849 | 1.00 | 11532.26 |
| 49 | 2009.02.27 03:16 | sell | 25 | 1.00 | 1.27140 | 0.00000 | 1.27106 | | |
| 50 | 2009.02.27 03:30 | t/p | 25 | 1.00 | 1.27106 | 0.00000 | 1.27106 | 34.00 | 11566.26 |
| 51 | 2009.03.02 07:32 | sell | 26 | 1.00 | 1.25796 | 0.00000 | 1.25795 | | |
| 52 | 2009.03.02 07:32 | t/p | 26 | 1.00 | 1.25795 | 0.00000 | 1.25795 | 1.00 | 11567.26 |
| 53 | 2009.03.02 07:32 | sell | 27 | 1.00 | 1.25775 | 0.00000 | 1.25741 | | |
| 54 | 2009.03.02 07:33 | t/p | 27 | 1.00 | 1.25741 | 0.00000 | 1.25741 | 34.00 | 11601.26 |
| 55 | 2009.03.04 04:19 | sell | 28 | 1.00 | 1.24870 | 0.00000 | 1.24789 | | |
| 56 | 2009.03.05 14:02 | close | 28 | 1.00 | 1.24868 | 0.00000 | 1.24789 | 5.99 | 11607.25 |
| 57 | 2009.03.05 16:15 | sell | 29 | 1.00 | 1.25379 | 0.00000 | 1.25312 | | |
| 58 | 2009.03.05 16:21 | t/p | 29 | 1.00 | 1.25312 | 0.00000 | 1.25312 | 67.00 | 11674.25 |
| 59 | 2009.03.09 17:46 | buy | 30 | 1.00 | 1.26364 | 0.00000 | 1.26378 | | |
| 60 | 2009.03.09 17:50 | t/p | 30 | 1.00 | 1.26378 | 0.00000 | 1.26378 | 14.00 | 11688.25 |
| 61 | 2009.03.09 17:50 | buy | 31 | 1.00 | 1.26404 | 0.00000 | 1.26602 | | |
| 62 | 2009.03.10 00:41 | close | 31 | 1.00 | 1.26410 | 0.00000 | 1.26602 | 4.27 | 11692.52 |
| 63 | 2009.03.10 07:47 | buy | 32 | 1.00 | 1.27135 | 0.00000 | 1.27209 | | |
| 64 | 2009.03.10 07:59 | t/p | 32 | 1.00 | 1.27209 | 0.00000 | 1.27209 | 74.00 | 11766.52 |
| 65 | 2009.03.11 17:32 | buy | 33 | 1.00 | 1.27760 | 0.00000 | 1.27867 | | |
| 66 | 2009.03.11 17:40 | t/p | 33 | 1.00 | 1.27867 | 0.00000 | 1.27867 | 107.00 | 11873.52 |
| 67 | 2009.03.12 00:15 | buy | 34 | 1.00 | 1.28140 | 0.00000 | 1.28207 | | |
| 68 | 2009.03.12 00:19 | t/p | 34 | 1.00 | 1.28207 | 0.00000 | 1.28207 | 67.00 | 11940.52 |
| 69 | 2009.03.16 07:46 | buy | 35 | 1.00 | 1.29476 | 0.00000 | 1.29543 | | |
| 70 | 2009.03.16 07:52 | t/p | 35 | 1.00 | 1.29543 | 0.00000 | 1.29543 | 67.00 | 12007.52 |
| 71 | 2009.03.17 20:01 | buy | 36 | 1.00 | 1.30216 | 0.00000 | 1.30251 | | |
| 72 | 2009.03.17 22:18 | close | 36 | 1.00 | 1.30220 | 0.00000 | 1.30251 | 4.00 | 12011.52 |
| 73 | 2009.03.18 01:33 | buy | 37 | 1.00 | 1.30277 | 0.00000 | 1.30459 | | |
| 74 | 2009.03.18 03:35 | t/p | 37 | 1.00 | 1.30459 | 0.00000 | 1.30459 | 182.00 | 12193.52 |
| 75 | 2009.03.19 21:00 | buy | 38 | 1.00 | 1.36682 | 0.00000 | 1.36713 | | |
| 76 | 2009.03.19 21:55 | t/p | 38 | 1.00 | 1.36713 | 0.00000 | 1.36713 | 31.00 | 12224.52 |
| 77 | 2009.03.20 00:03 | buy | 39 | 1.00 | 1.36673 | 0.00000 | 1.36782 | | |
| 78 | 2009.03.20 03:13 | close | 39 | 1.00 | 1.36674 | 0.00000 | 1.36782 | 1.00 | 12225.52 |
| 79 | 2009.03.20 13:00 | sell | 40 | 1.00 | 1.35753 | 0.00000 | 1.35593 | | |
| 80 | 2009.03.20 13:10 | t/p | 40 | 1.00 | 1.35593 | 0.00000 | 1.35593 | 160.00 | 12385.52 |
| 81 | 2009.03.23 01:15 | buy | 41 | 1.00 | 1.36430 | 0.00000 | 1.36565 | | |
| 82 | 2009.03.23 01:25 | t/p | 41 | 1.00 | 1.36565 | 0.00000 | 1.36565 | 135.00 | 12520.52 |
| 83 | 2009.03.23 05:16 | buy | 42 | 1.00 | 1.36693 | 0.00000 | 1.36713 | | |
| 84 | 2009.03.23 05:41 | t/p | 42 | 1.00 | 1.36713 | 0.00000 | 1.36713 | 20.00 | 12540.52 |
| 85 | 2009.03.23 23:05 | buy | 43 | 1.00 | 1.36288 | 0.00000 | 1.36308 | | |
| 86 | 2009.03.23 23:07 | t/p | 43 | 1.00 | 1.36308 | 0.00000 | 1.36308 | 20.00 | 12560.52 |
| 87 | 2009.03.23 23:07 | buy | 44 | 1.00 | 1.36349 | 0.00000 | 1.36361 | | |
| 88 | 2009.03.23 23:12 | t/p | 44 | 1.00 | 1.36361 | 0.00000 | 1.36361 | 12.00 | 12572.52 |
| 89 | 2009.03.25 04:32 | sell | 45 | 1.00 | 1.34771 | 0.00000 | 1.34582 | | |
| 90 | 2009.03.25 05:31 | t/p | 45 | 1.00 | 1.34582 | 0.00000 | 1.34582 | 189.00 | 12761.52 |
| 91 | 2009.03.26 07:17 | buy | 46 | 1.00 | 1.35876 | 0.00000 | 1.36008 | | |
| 92 | 2009.03.26 11:20 | close | 46 | 1.00 | 1.35878 | 0.00000 | 1.36008 | 2.00 | 12763.52 |
| 93 | 2009.03.31 00:00 | buy | 47 | 1.00 | 1.31902 | 0.00000 | 1.32021 | | |

| 94 | 2009.03.31 00:42 | t/p | 47 | 1.00 | 1.32021 | 0.00000 | 1.32021 | 119.00 | 12882.52 |
|-----|------------------|-------|----|------|---------|---------|---------|--------|----------|
| 95 | 2009.04.01 17:47 | sell | 48 | 1.00 | 1.32041 | 0.00000 | 1.31936 | | |
| 96 | 2009.04.01 18:12 | t/p | 48 | 1.00 | 1.31936 | 0.00000 | 1.31936 | 105.00 | 12987.52 |
| 97 | 2009.04.02 19:17 | buy | 49 | 1.00 | 1.34604 | 0.00000 | 1.34696 | | |
| 98 | 2009.04.02 21:40 | close | 49 | 1.00 | 1.34608 | 0.00000 | 1.34696 | 4.00 | 12991.52 |
| 99 | 2009.04.06 02:31 | buy | 50 | 1.00 | 1.35677 | 0.00000 | 1.35813 | | |
| 100 | 2009.04.06 04:45 | close | 50 | 1.00 | 1.35683 | 0.00000 | 1.35813 | 6.00 | 12997.52 |