

# Chairs' Introduction to Workshop on Computational Finance and Business Intelligence

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**Abstract.** We have been organizing the Workshop on Computational Finance and Business Intelligence (CFBI) at International Conference on Computational Science (ICCS) since 2003. This workshop at ICCS, Baton Rouge, Louisiana, U.S.A., May 25-27, 2009 focuses on computational science aspects of asset and derivatives pricing, financial risk management, and related topics to business intelligence. It will include but not limited to modeling, numeric computation, algorithmic and complexity issues in arbitrage, asset pricing, future and option pricing, risk management, credit assessment, interest rate determination, insurance, foreign exchange rate forecasting, online auction, cooperative game theory, general equilibrium, information pricing, network band witch pricing, rational expectation, repeated games, etc.

## 1 Introduction

The 15 papers are accepted for CFBI, ICCS 2009. The first paper, “Lag-Dependent Regularization for MLPs applied to Financial Time Series Forecasting Tasks”, by A. Skabar, proposes a lag-dependent regularization technique by which the influence that a lag has in determining the forecast value decreases exponentially with the lag. The second paper, “Bias-Variance Analysis for Ensembling Regularized Multiple Criteria Linear Programming Models”, by P. Zhang, X. Q. Zhu, Y. Shi, explores bias-variance decomposition on RMCLP method, and concluded that boosting based RMCLP will mostly further improve the RMCLP models. The third paper, “Knowledge-rich Data Mining in Financial Risk Detection”, by Y. Peng, G. Kou, Y. Shi, studies the concept of chance discovery into financial risk detection to build the knowledge-rich data mining process and therefore increase the usefulness of data mining results in financial risk detection. The fourth paper, “Smoothing Newton Method for 11 Soft Margin Data Classification Problem”, by W. B. Chen, H. X. Yin,

Y. J. Tian, presents a smoothing Newton method for solving the dual of the  $l_1$  soft margin data classification problem. The fifth paper, “Short-term Capital Flows in China : Trend, Determinants and Policy Implications”, by H. Z. Yang, Y. P. Zhao, Y. J. Ze, builds a structural model-VECM to explore the determinants of net flows of short-term capital in China. The sixth paper, “Finding the Hidden Pattern of Credit Card Holder’s Churn: a Case of China”, by G.L. Nie, G. X. Wang, P. Zhang, Y. J. Tian, Y. Shi, provides a framework of the whole process of churn prediction of credit card holder. The seventh paper, “Nearest Neighbor Convex Hull Classification Method for Face Recognition”, by X.F. Zhou, Y. Shi, introduces a novel classifier called Nearest Neighbor Convex Hull Classifier for face recognition. The eighth paper, “The Measurement of Distinguishing Ability of Classification in Data Mining Model and Its Statistical Significance”, by L. L. Zhang, Q. X. Wang, J. Wei, X. Wang, Y. Shi, discusses the overlapping degree, and use K-S statistics to examine the confidence level of the results from data mining model, and construct the nonparametric statistics of AUC. The ninth paper, “Maximum Expected Utility of Markovian Predicted Wealth”, by E. Angelelli, S. O. Lozza, proposes an ex-post comparison of portfolio selection strategies based on the assumption that the portfolio returns evolve as Markov processes. The tenth paper, “Continuous Time Markov Chain Model of Asset Prices Distribution”, by E. Valakevičius, introduces a continuous time Markov chain model for asset dynamics. The 11th paper, “Foreign Exchange Rates Forecasting with a C-Ascending Least Squares”, by L. Yu, X. Zhang, S.Y. Wang, proposes a modified least squares support vector regression (LSSVR) model. The 12th paper, “Multiple Criteria Quadratic Programming for Financial Distress Prediction of the Listed Manufacturing Companies”, by Y. Wang, P. Zhang, G. L. Nie, Y. Shi, applies the Multiple Criteria Quadratic Programming (MCQP) model to predict financial distress of the listed manufacturing companies. The 13th paper, “Kernel Based Regularized Multiple Criteria Linear Programming Model”, by Y. H. Zhang, P. Zhang, Y. Shi, extends RMCLP into solving non-linear problems by kernel trick. The 14th paper, “Retail Exposures Credit Scoring Models for Chinese Commercial Banks”, by Y. H. Yang, G. L. Nie, L. L. Zhang, designs the target system of individual credit scoring with individual housing loans data, and established an individual credit scoring model including testing. The 15th paper, “The Impact of Financial Crisis of 2007-2008 on Crude Oil Price” by X. Zhang, L. Yu, S. Y. Wang, proposes an EMD-based event analysis approach for better estimation of the impact of extreme events on crude oil price volatility.

Finally, the chairs would like thank all of the program committee members as well as the reviewers for their valuable comments on the submissions. Without their support, the workshop cannot continue as it is now. We will work hard to participant in ICCS 2010 again.