Call for Papers

IEEE Signal Processing Magazine

Special Issue on *Signal Processing for Financial Applications*

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The current financial crisis has both underscored the importance of sound financial systems and exposed the fact that financial engineering has significant room for improvement and development. Many problems that arise in financial engineering call for signal processing methods since financial markets produce a vast amount of temporal signals: transaction prices and volumes, limit orders, quarterly earnings, compositions of various market indices, etc. The time scales of these signals range from a small fraction of a second (e.g., transactions for a very liquid stock) to a year (e.g., a company's membership in the Russell 1000 index).

This special issue will feature tutorial papers covering many aspects of signal processing used in financial engineering. The target audience is the signal processing community, and therefore potential authors should not assume readers' familiarity with finance. Topics of interest include, but are not limited to, the following:

- Market microstructure analysis (e.g., analysis of high-frequency data and order book modeling).
- Smart order routing algorithms.
- Algorithmic trading and optimal order execution strategies.
- Technical analysis.
- Risk analysis and modeling.
- Financial networks and systemic risk.
- Behavioral finance and prospect theory.
- Stochastic volatility models.
- Pricing and hedging of derivatives, including mortgage-backed securities and collateralized debt obligations, and the impact on the recent credit crisis.
- Financial databases.
- Portfolio theory.

Submission Procedure:
Prospective authors should submit their white papers (two pages maximum) to the web submission system through IEEE Manuscript Central at: http://mc.manuscriptcentral.com/spmag-ieee.

Schedule:

White paper due: August 15, 2010
Invitation notification: August 30, 2010
Manuscript due: December 1, 2010
Acceptance notification: March 15, 2011
Final manuscript due: April 15, 2011