Siyuan (Steven) Luo

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EDUCATION

IIT Stuart School of Business Chicago, IL May 2015
MS in Mathematical Finance, GPA: 3.72/4.00, Beta Gamma Sigma member

- ***Finance:*** Black-Scholes, option pricing, the Greeks, volatility smiles, VaR, fixed income asset pricing, CDS, C++ with Financial Markets, Computational Finance in Python, OOP and Algorithmic Trading, statistical arbitrage
- ***Mathematics:*** Stochastic Processes, Markov chains, Brownian motion, Ito's Lemma, Martingales, Statistical Learning, machine learning, logistic regression, PCA, variable selection, ridge regression, linear discriminant analysis
- ***Modeling:*** Monte Carlo simulations, Finite Difference schemes, interest rate trees, linear regression, classification

North China Electric Power University (NCEPU) Beijing, China Jul 2013
BS in Applied Mathematics and Information & Computing Science

- ***Core Courses:*** Mathematical Analysis, Probability and Statistics, Modeling in MATLAB, Numerical Analysis, Operations Research, C/C++, C++ Data Structure, Optimization Methods, Data Analysis

PROFESSIONAL EXPERIENCE

Partners in Community Building Chicago, IL Jan 2014 – May 2014
Project Assistant
Managed contact information database of 130^+ clients and created updated contact list for various events and weekly workshops
Audited the monthly operations and expense report of the company

ACADEMIC PROJECTS

Equity Trading Projects Sep 2014 – Dec 2014

- Applied the Delta normal and the Z-Transform trading strategies on 4 pairs of stocks based on 5 years' data and set up different buy and sell signal thresholds to test the profitability of the strategies
- Optimized the capital allocation between stock pairs of the portfolio to beat the previous benchmark portfolio

Computational Finance Projects (Python) Aug 2014 – Dec 2014

- Performed Monte Carlo simulation and Finite Difference scheme to price options and callable bonds using Vasicek model
- Used quasi-random sampling and importance sampling techniques to improve computational efficiency
- Valuated portfolio consist of equities, bonds and options and used copula model to generate correlated underlying normal variables to handle the correlation of different instruments and analyzed expected shortfall at the 5% level of the portfolio

Mathematical Finance Team Projects Feb 2014 – Apr 2014

- Conducted hedging on a portfolio of calls and puts by using real market data via Interactive Broker Paper Trading Account and set up the corresponding hedging portfolio formed from the underlying stocks
- Updated the hedging portfolio by computing from Black-Scholes model, Heston's model and Trinomial Tree model
- Calibrated the Heston's model to market data by using MATLAB and Excel

Modern Interest Rate Modeling and Fixed Income Asset Pricing Projects Jan 2014 – Apr 2014

- Implemented short rate models by means of interest rate trees, Monte Carlo simulations, and Finite Difference schemes to price bonds, bond options, caps, floors, swaps, swaptions, mortgages, and other interest rate derivatives by using Excel
- Calibrated mean reversion and volatility parameters for Hull-White short rate model
- Calibrated the tree mean rate to fit the monthly zero coupon bond price when using interest rate trees method

Chinese University Mathematical Contest in Modeling (CUMCM) Sep 2011

- Generated optimal and green operation strategy for an electrical factory based on data of its location and pollution by using MATLAB while reducing time cost by 50%

Mathematical Contest in Modeling of NCEPU (Team Leader) Jun 2011

- Designed models for analysis of pollution of heavy metals and oversaw the completion of the project dissertation

ACTIVITIES

Vice President, NCEPU Mathematics Modeling Association Mar 2010 – Jun 2011

- Assisted in preparing CUMCM, managed 50^+ competition teams, organized training sessions for 150^+ members
- Conducted a panel discussion in mathematics modeling for 40 participants

Vice President, Technology Innovation Department Mar 2010 – Jun 2011

- Coordinated an orientation meeting for the Electric Mathematical Contest in Modeling for 35 participants

SKILLS

Programming: C/C++, Excel, MATLAB, Python, R, SQL
Languages: Mandarin, English