Yuexin Mao

DATA ANALYST/SOFTWARE ENGINEERING INTERN - FINSTATS.COM

Vernon, CT
yuexin.mao@engr.uconn.edu - (203) 392-4798

Ph.D candidate in Computer Science and Engineering with hands-on experience, developing and implementing machine learning algorithms to facilitate stock/trade positioning strategies, along with extensive university research analyzing Twitter volume spikes and their relationship to identifying return-on-investment opportunities for stock transactions. Exploring career opportunities as a Data Scientist in the financial services or information technology field.

WORK EXPERIENCE

DATA ANALYST/SOFTWARE ENGINEERING INTERN

FINSTATS.COM - Storrs, CT - June 2013 to Present

Stock Tweet Burst Detection and Trading Recommendation System

• Developed and implemented a tweet bursts detection trading system that provides real-time trading signals (Python, R and MySQL). The system integrates a scheme to collect real-time tweets mentioning S&P 500 stocks and detect tweet bursts, a filter for analyzing users who post tweets and content to evaluate tweet bursts, a classification model to evaluate trading probability and recommendations on specific stocks for trading.

• Developed a trading tracking algorithm to monitor stock positions and recommend optimal trade entry and exit time.

❖ Put Option Selling Recommendation System

• Developed and implemented an online put option selling system (Python, R and MySQL). The system uses Twitter volume spikes and stock option trading probability as the basis for formulating recommendations on put option with a specific strike price for a particular stock to sell.

• Developed a mechanism to generate a daily put selling report including stock charts with automated web server upload.

• Tracked performance for all 467 advised put option trades from January 2013, achieving a 112.96% annual rate-of-return, with 95.08% trades generating positive profit.

Resumé)

RESEARCH ASSISTANT

UNIVERSITY OF CONNECTICUT - Storrs, CT - January 2010 to Present

Using Twitter Volume Spikes to Assist Stock Options Trading

• Investigate the assumption of the Black-Scholes model when stocks have Twitter volume spikes.

• Proposed and implemented a spread selling strategy for stock option trading. Demonstrated that even in a competitive setting, using one year stock market data, this strategy achieved a 34.3% gain, while S&P 500 increased by 12.8%.

❖ Analyze Twitter Volume Spikes and Using Twitter Volume Spikes to Assist Stock Trading

• Implemented a Twitter tweets collection and analysis scheme using Python and MySQL to collect tweets that mention S&P 500 stocks and identify Twitter volume spikes.

• Analyzed timing of Twitter volume spikes and whether they were expected. Investigated possible causes for the spikes.

• Developed a Bayesian classifier that uses Twitter volume spikes to facilitate stock trading with a simulation showing an 8.6% gain over 1 month and 15.0% gain over 3 months.

❖ Correlating S&P 500 stocks with Twitter data

• Investigated the correlation between S&P 500 stock indicators and Twitter data; showed strong correlation between the number of tweets mentioning stocks to stock trading volume.

• Developed a multinomial logistic regression model to predict stock trading volume in classes on each trading day. This model achieved 57.3% precision for predicting low trading volume and 67.2% precision for predicting high volume over 6 months.

❖ Iterative LT Decoding Algorithm for Binary and Non-binary Galois Field

• Designed and implemented a new iterative LT decoding algorithm for Binary field using Matlab and C++.

• Improved the original LT decoding algorithm for Non-binary field.

❖ Policy Research and Mixed Methods: A Technique for Compensation for Attrition Bias

• Developed a network analysis method to compensate the attrition bias using Matlab.

• Evaluated and compensated the Commission social network using compensation method.

RESEARCH ANALYST/INTERN

GENERAL ELECTRIC EDGE LAB - Stamford, CT - January 2011 to May 2011

Developed a mobile payment system prototype (JAVA) on Android OS for GE.

• Conducted research on NFC (Near Field Communication) technologies to be used in mobile payment systems.

• Member of team advised by GE Director and Project Manager, as well as two UConn professors.

• Provided final delivery of NFC implementation plan to GE; project partially completed due to lab shutdown.

SOFTWARE ENGINEER/WEB APPLICATIONS DEVELOPER

INDEPENDENT SOFTWARE - New Haven, CT - August 2009 to May 2010

Developed web applications using PHP, JavaScript and HTML, combined with MySQL.

• Implemented and managed an open source project management software for the company.

RESEARCH ENGINEERING EXPERIENCE

EDUCATION

Master of Science in ELECTRICAL ENGINEERING

UNIVERSITY OF BRIDGEPORT - Bridgeport, CT
May 2009

Bachelor of Electrical Engineering and Bachelor of English

UNIVERSITY OF ELECTRICAL SCIENCE & TECHNOLOGY OF CHINA
May 2007

Ph.D in COMPUTER SCIENCE & ENGINEERING

UNIVERSITY OF CONNECTICUT - Storrs, CT

LINKS

http://www.finstats.com/sp500.htm

ADDITIONAL INFORMATION

COMPETENCIES

• Mathematics & Statistics Knowledge • Machine Learning (Proficient in R, Matlab)

• Programming Skills (Proficient in Python, familiar with Java, C and C++)
• Database Development & Management (Proficient in MySQL and PostegreSQL)

• Data Analytics & Visualization • Social Media Data Collection/Analysis
• Stock Market/Option Data Analysis • Stock Trading Strategies

SKILLS and TOOLS

Python; C/C++; Java; R Programming; Matlab; PHP; JavaScript; HTML; Minitab; MySQL; PostegreSQL; MS SQL; Hadoop; Tableau; SVN; GIT; Vi/Vim; Visual Studio; Netbeans; Eclipse; Linux; Unix OS; Mac OS; Windows OS.