Jiayi Zhang

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EDUCATION

UNIVERSITY OF MICHIGAN *Ann Arbor, MI*

Master of Science in Quantitative Finance and Risk Management *September 2017-Expected May 2019*

Course Highlights: Financial Derivatives, Derivative Pricing, Stochastic Calculus for Finance in Discrete time and Continuous Time, Computational Finance, Linear Regression in R, Statistical Analysis of Financial Data, Analysis of Time Series, Machine Learning and Investment Strategies

UNIVERSITY OF MINNESOTA, TWIN CITIES *Minneapolis, MN*

Bachelor of Science in Mathematics-Actuarial Science Specialization GPA:3.71 *September 2014-May 2017*

***Course Highlights*:** Numerical Analysis, Stochastic Process, Mathematics Modeling, PDE, ODE, Complex Analysis, Database Syste in SQL, Advanced programming in Clojure, Econometrics, Risk Management, Financial Reporting, Finance Fundamentals, Financial markets and Business Strategy

WORK EXPERIENCE

GUANGFA SECURITIES *Shanghai, China*

Quantitative Macroeconomic Research Analyst *June 2018-Untill now*

- **PPI prediction**: analyzed the compositions of PPI and searched for high frequency price indicators highly correlated with the components, applied R to conduct regressions to get the fitted values of components and PPI, analyzed residuals and modified the models
- **Data-analysis tools refinement**: used Offset, Index, Match etc. in Excel to formulate the data-processing procedures, improved the tools by using Conditional Formatting to automatically perform coloring and present analysis results, and cut seven-eighths working hours
- **Creativity and analytical skills**: graphed all industries under their upstream and downstream relations, colored the graphs in different analysis aspects, and figured out the prosperity of the industries by shades of the colors as well as the effects to the downstream from the upstream
- **Problem-solving skills and a good taste in research**: worked on subjects that rarely had clean and definitive answers, established habits to go wide and deep into the subjects, shared opinions with teammates and reported the progress with supervisor by deadline

CHINA MERCHANTS SECURITIES *Shenzhen, China*

Asset-backed Securities Analyst *May 2016-August 2016*

- Used MATLAB to build models to predict future cash flows of 10 securitization projects for clients who are Big Four commercial banks, including the first credit card bad-asset securitization case worldwide; resulting models became leading references for future securitization projects
- Enhanced interpersonal skills by participating in due diligence of 5 securitization projects and facilitating cross-party communication, and performed business model analysis to study securities market and do researches on new derivatives

PROJECTS

RESEARCH ON CLUSTERING-BASED FINANCIAL MARKETS PREDICTION USING DEEP NEURAL NETWORKS

Ann Arbor, MI, April 2018-Expected January 2019

- Collected stocks prices by minute in all three indexes (NASDAQ, NYSE, NYSE AMEX) from Bloomberg, and applied clustering algorithm to divide the stocks into eight groups based on corresponding financial indicators
- Predicted abnormal and normal days of the equity market in each group by applying deep neural networks in machine learning, and analyzed the prediction performance compared with non-clustering ANN, random model, linear regression and support vector machine model

RESEARCH ON FINANCIAL VOLATILITY OF NASDAQ AND ITS PREDICTION *Ann Arbor, MI, March 2018*

- Collected data from Bloomberg, applied R to write loops to obtain various GARCH models, selected the model with minimum AIC, performed diagnostics by analyzing ACF plot and residuals, and got its maximum likelihood value compared with that of POMP model
- Applied R to build POMP model, fitted the Stochastic Leverage Model to NASDAQ data, and performed the diagnostics

RESEARCH ON OPTIMAL BETTING STRATEGIES IN TEXAS HOLD'EM *Minneapolis, MN,April 2017*

- Made assumptions matching the goals of the project, selected starting hands based on desired expectations, applied MATLAB to write functions

SKILLS AND CERTIFICATIONS

Programming skills*:* MATLAB, R, Python, SQL, Clojure

Data Tools: Bloomberg, CEIC, Wind **Office Tools:** Microsoft Excel and PowerPoint

Certifications*:* Exam Probability, and Exam MFE (Associate of the Society of Actuaries)