

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 Actuarial Science GPA:3.71

September 2014-May 2017

Course Highlights: Numerical Analysis, Stochastic Process, Mathematics Modeling, PDE, ODE, Complex Analysis, Database System 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-Present

- **Economic indicators predictions:** analyzed the compositions of PPI and searched for high frequency price indicators highly correlated with the components, applied R to conduct regressions twice to get the fitted values of components and PPI, analyzed residuals and modified the models
- **Analytical methods to researching industries:** graphed all industries under their upstream and downstream relations, colored the graphs in eight analysis aspects, and researched the prosperity of industries by shades of the colors as well as the effects to the downstream from the upstream
- **Data-analysis tools development:** 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 labor hours by 80%
- **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

- **Future cash flows prediction model:** Used MATLAB to predict future cash flows of 10 securitization projects from Big Four commercial banks, including the first default credit-card-backed securitization worldwide and made the models be leading references for future securitization projects
- **Due diligence coordination:** Enhanced interpersonal skills by participating in due diligence of 5 securitization projects and facilitating cross-party communication, studied securities market by researching business models and new derivatives, and completed bi-weekly reports

PROJECTS

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

Ann Arbor, MI, April 2018-Present

- **Stock prices processing with Clustering:** Collected minute-to-minute stock prices 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
- **Deep Neural Networks applications:** Applied DNN on stock prices to predict abnormal and normal days of the equity market in each clustering group, and analyzed the prediction performance compared with non-clustering ANN, random model, and support vector machine model

RESEARCH ON FINANCIAL VOLATILITY OF NASDAQ AND ITS PREDICTION

Ann Arbor, MI, March 2018

- **GARCH models selection and diagnostics:** 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
- **POMP model applications and comparisons between two models:** Applied R to build POMP model, fitted the Stochastic Leverage Model to NASDAQ data, and performed the diagnostics, and got its maximum likelihood value compared with that of GARCH model

RESEARCH ON OPTIMAL BETTING STRATEGIES IN TEXAS HOLD'EM

Minneapolis, MN, April 2017

- Made assumptions based on goals of the project, selected starting hands based on desired expectations, applied MATLAB to implement process

SKILLS AND CERTIFICATIONS

Programming skills: MATLAB, R, Python, SQL, and Clojure **Data Tools:** Bloomberg, CEIC, and Wind **Office Tools:** Microsoft Excel

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