Columbia University

Masters Program in Mathematics of Finance

Summer 2019 Internship Candidates

Resume Book

Summer 2019 Internship Candidates Resume Book
Columbia University Mathematics of Finance MA Program
Publication Date: Tuesday, September 4, 2018

Dear Colleague,

Enclosed please find the resumes of students in Columbia University's Mathematics of Finance MA program (MAFN) who are expected to be available for summer internships during the summer of 2019.

The most current version can be downloaded from http://www.math.columbia.edu/mafn/recruiting-careers/for-prospective-employers/#resumes, where you can also find the resumes of students who will be available for regular employment.

We invite you to review the resumes and consider these students for summer internships. Feel free to contact them directly.

You are welcome to forward this resume book to your colleagues. Also, we would appreciate if you would suggest hiring managers and human resource personnel in your organization who should receive our resume books in the future. Please email lrb@math.columbia.edu

We can also set up a recruiting presentation on campus (we would typically arrange that on a Friday during the day), or you may send us a specific job description which we can then circulate to the MAFN community.

For information about the MAFN program, please visit our website at http://www.math.columbia.edu/mafn/

Sincerely yours,

Lars Tyge Nielsen
Director of the Mathematics of Finance MA Program
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Laurent Breach
Coordinator of the Mathematics of Finance MA Program
lrb@math.columbia.edu

(Please turn to the next 4 pages for a list of students and their email addresses)

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Benjamin Chen

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EDUCATION

Columbia University **New York, NY**

MA in Mathematics of Finance Sep 2018 – Dec 2019 (expected)

- **Upcoming Coursework:** Statistical Machine Learning, Stochastic Calculus, Statistical inference and Time Series modeling, Stochastic Processes and Applications, Non-linear Option Pricing, Computational Finance
- GRE Quantitative Reasoning 170/170

Université Paris Dauphine **Paris, France**

BSc and 1st year of MSc in Applied Mathematics : **GPA 4.0/4.0** Sep 2014 – Jun 2018

- **Relevant Coursework:** Probabilities, Statistical learning, Brownian motion, Numerical analysis, Functional analysis and PDE, Programming in Python, Monte-Carlo methods

WORK & LEADERSHIP EXPERIENCE

Berman Sarrazin Research Center **Paris, France**

Research contributor Jan 2018 – Aug 2018

- Reviewed literature on long memory epidemic processes and processed data for visualization
- Created a test for prostate cancer using neural networks and machine learning techniques
- Designed a power law decaying model for the growth of prostate specific antigen levels
- Researched long term kernels to fit the response function in a hormone therapy

École Polytechnique CMAP **Palaiseau, France**

Research Assistant, Advisor: Prof. T.Mastrolia Jun 2018 – Jul 2018

- Studied a Principal/Agent problem under hidden action in continuous time
- Reviewed literature on stochastic control and FBSDE to compute an optimal contract
- Implemented a BTCS finite difference scheme for the PDE

International Tournament for Young Mathematicians (ITYM) **St-Petersburg, Russia**

Team leader Jan 2016 – Jul 2016

- Team won 1st Prize at TFJM (National qualifiers) and 3rd Prize at ITYM
- Suggested research guidelines in graph theory and discrete mathematics
- Co-organized the French regional tournament in Paris and gave weekly courses on LaTeX

Allianz Insurance **La Défense, France**

Summer Intern Jun 2015 – Jul 2015

- Assisted manager with calling clients and maintaining insurance claimant files
- Reduced by 80% the delay on foreign claims by automating reports with excel macros.

RESEARCH PROJECTS

AI for Chinese Chess, Université Paris Dauphine May 2018 – Jul 2018

Advisor : Prof. T.Cazenave

- Studied a Chinese Chess bot using convolutional networks and Monte Carlo Tree Search

Honors thesis on Asset Pricing, Université Paris Dauphine Jun 2017 – Jul 2017

Advisor : Prof. X.Tan

- Studied martingale theory and functional analysis for the Dalang-Morton-Willinger no-arbitrage condition in finite and discrete time horizon

SKILLS

Languages: Fluent in English, French, Chinese ; Intermediate in German

Programming : Proficient in Python (Pandas, Scikit-learn, NumPy), R ; Beginner in C++, SQL, Matlab

Interests : Board games, Biology, Medicine

YENHSIANG (ALEXANDER) CHEN

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EDUCATION

Columbia University New York, NY
M.A. in Mathematics of Finance (Aug 2018 Start) Dec 2019 (Expected)
- Coursework: Statistical Inference & Time-Series Modeling, Stochastic Processes

Georgia Institute of Technology Online
M.S. in Computer Science, Specialization in Machine Learning (Aug 2018 Start) Dec 2020 (Expected)
- Coursework: Machine Learning

National Chengchi University Taipei, TW
B.S. in Money and Banking, GPA: 3.7/4.0 Jul 2011 – Jan 2016
- Studied programming (in C and R), algorithms, numerical analysis, advanced calculus, mathematical statistics, econometrics, risk management, financial derivatives at the top-ranked finance program in Taiwan

WORK EXPERIENCE

Fuh Hwa Securities Investment Trust Co., Ltd. Taipei, TW
Quantitative Analyst, Fixed Income Department Jun 2017 – Jun 2018
- Model Construction: Constructed a bond selection model based on default risk and fundamental-adjusted spread for a $320mn high yield bond fund, which outperformed benchmark with a lower volatility in the past 7 years in backtest
- Fixed Income Analysis: Analyzed fixed income derivatives market trends, and collaborated with portfolio managers to formulate trading strategies for the highest-rated investment securities firm in Taiwan
- Quantitative Strategy: Developed an asset rotation strategy based on economic parameters and business cycle
- Runtime Improvement: Optimized implementation efficiency in existing models

Yuanta Securities Investment Trust Co., Ltd Taipei, TW
Quantitative Research Intern, Index and Quantitative Investment Department Jan – Jul 2015
- Index Research: Conducted research on index ETF & index futures for the largest securities firm in Taiwan and developed investment strategies for emerging markets based on capital flow volatility and market risk appetite
- Quantitative Strategy: Conducted research on VIX Index derivatives and developed a mean-reversion trading strategy that yielded an annual return of 15.7% for five years in backtest in Multicharts
- Optimization and Backtesting: Backtested and optimized multiple investment strategies such as asset rotation between different risk-level assets with volatility and rebalancing frequency control in C++

Hua Nan Securities Investment Management Taipei, TW
Equity Research Analyst Jun – Aug 2013
- Financial Modeling: Investigated trends in the textile industry and updated databank and financial models that provided senior management with a comparative financial analysis of Taiwanese textile companies

PROJECTS

Option Pricing In C++, Baruch College (Online Seminar) Oct – Nov 2016
- Built option pricing models using Monte Carlo simulation and Finite Difference Method; visualized in Excel

Insurance Business Analysis In R, National Chengchi University Nov 2013 – Feb 2014
- Analyzed the impact of economic statistics on insurance penetration rate in South Asian countries by multi-factor regression analysis in R and received the Best Research Award from class sponsor Cathay Life Insurance

SKILLS/OTHER

Programming: C/C++, R, Python, VBA
Software: Bloomberg, Matlab, Multicharts

Ying Chen

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EDUCATION

Columbia University, Graduate School of Arts and Sciences — New York, NY
Master of Arts in Mathematics of Finance — Expected Dec.2019

Columbia University, Barnard College — New York, NY
Visiting Student (GPA: 3.90/4, On Dean's List) — Jan.2017 – May 2017

- Coursework: Time Series, Java, Python, Ordinary Differential Equation
- Received scholarship from China Scholarship Council for academic excellence

China Foreign Affairs University, School of International Economics — Beijing, China
Bachelor of Economics in Finance (GPA: 3.81/4) — Jun.2018

- Coursework: Financial Engineering, Econometrics, Probability, Statistics, Calculus, Linear Algebra, Risk Management, Financial Markets, Investments and Portfolio Management, Economics of Money and Finance
- Honors: Chiang Chen Scholarship 2017 (1%), Academic Scholarships 2015 - 2017 (3%), Outstanding Student 2016 & 2017 (5%), Outstanding Student Leader 2016 (3%)
- Identified significant influential factors of the China / U.S. foreign exchange rate by conducting economic research and regression analysis, including multivariate linear regression, stepwise regression and ridge regression (SPSS)

SKILLS

Technical Skills	C++, Python, MATLAB, R, SPSS & Visual FoxPro
Certificates	C++ for Financial Engineering Certificate (with Distinction) - Baruch College

PROFESSIONAL EXPERIENCE

Jiuheng Tech LTD Co. | Summer Analyst | Beijing, China — Jul.2018 - Aug.2018

- Built Volume Synchronized Probability of Informed Trading model that anticipates price crashes more than 30 minutes in advance
- Developed tens of uncorrelated and profitable statistical arbitrage signals for the cryptocurrency market

Founder Securities | Quantitative Researcher Intern | Beijing, China — Mar.2018 - Jun.2018

- Developed and back-tested CTA strategies using MATLAB, including trend following strategies and pattern recognition strategies
- Constructed quantitative trading algorithms on cryptocurrencies that employ technical indicators, such as Average True Range, R-Breaker and Bollinger Bands
- Extracted cryptocurrency data from exchange APIs and developed a database for cross-exchange arbitrage using Python

Quantum Financial Service | Quantitative Analyst Intern | Beijing, China — Sept.2017 - Feb.2018

- Established quantitative trading strategies, including pairs trading based on statistical arbitrage, momentum strategies, smart beta strategies and mean reversion strategies, for investments in Chinese A share market using Python and MATLAB. Two strategies had Sharpe Ratio over 2
- Constructed and tested 1000+ fundamental and price-volume factors. 296 factors had absolute values of Information Ratio over 0.5 (fundamental factors) or 1 (price-volume factors)
- Implemented ARMA-GARCH model to estimate stock returns and volatilities for portfolio allocation
- Utilized econometric and statistical methods such as singular spectrum analysis, cointegration and error correction analysis to test and optimize quantitative factors and trading strategies

Hfax | Fintech Data Analyst Intern | Beijing, China — Jul.2017 - Aug.2017

- Applied the Entropy Weight Method and Analytic Hierarchy Process to independently build a multidimensional user analysis model, which supports personalized marketing and the establishment of advanced user databases
- Mined data from user information databases and constructed representative factors of users' financial health such as savings rate, debt-to-income ratio and liquidity ratio
- Implemented the K-Means algorithm to cluster data for further analysis

IBM | Financial Analyst Summer Intern | Beijing, China — Jul.2016 - Aug.2016

- Assisted in developing a multidimensional expense model, which can automatically split expenses to different line-of-business and analyze rationality of the company's expenditure structure
- Designed presentation of the financial module of a business intelligence application, including finding desired factors and presenting them in a clear and organized way

KEILUNG CHOY

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EDUCATION

School of Economics, Peking University (PKU), Beijing *Sep 2014-Jul 2018*

- Major GPA: 3.69/4.0
- Coursework: Linear Algebra (100/100), Econometrics (93/100), Financial Derivatives (92/100), International Finance (91/100)

School of Mathematical Sciences, Peking University (PKU), Beijing *Sep 2015-Jul 2018*

- Double Major in Mathematics and Applied Mathematics
- Coursework: Ordinary Differential Equations (89/100), Statistics (93.5/100), Probability Theory (92/100)

Graduate School of Arts and Science, Columbia University, New York *Sep 2018-Dec 2019*

- Major: Mathematics with a Specialization in the Mathematics of Finance

RESEARCH EXPERIENCE

Research on Managerial Ownership | RA | PKU *Jul 2016-Sep 2016*

*Advisor: **Teng Sun**, Assistant Professor, Department of Applied Economics, PKU*

- Implemented Stata to classify data from 20+ related papers and databases, converting data into a histogram
- Constructed linear regression model between Managerial Ownership and Firm Performance

INTERNSHIP EXPERIENCE

Aerospace Investment Holdings Co., Ltd., Investment Banking Department | Intern | Beijing *Jun 2016-Aug 2016*

- Used financial models (DCF, scenario analysis, etc.) to assess the financial situations of the company
- Performed due-diligence on Huohe Tech Company and wrote industry research reports on E-commerce industry for the team

GuoDu Securities, Mutual fund Department | Intern | Beijing *Apr 2017-Jul 2017*

- Constructed spread of industries' dividend yield ratio using its standard error and average to choose stocks and adjusted the weight of different stocks in a portfolio
- Converted daily trading data into vectors constructed by binary variables. Implemented Naïve Bayesian Model to predict the trend of stock price and enhanced the accuracy of prediction out of the sample by 4%
- Used LPPL (Log Periodic Power Laws) model to simulate the trend of stock price and predict when the stock market bubble would burst. Optimized parameters using Genetic Algorithm

CITIC Securities | Intern | Beijing *Jul 2017-Aug 2017*

- Summarized key points of the operating mechanism of the Shanghai-Hong Kong Stock Connect program
- Collected real-time data from Hong Kong Stock Exchange to determine whether it was feasible to put stocks listed in the Hong Kong Stock Exchange into the portfolio

Derivatives China | Intern | Beijing *Sep 2017-Dec 2017*

- Used average lines with different periods to construct Boll and implemented an exhaustive test to calibrate the parameters
- Used ADX and DMI to predict the intensity and direction of the trend in rebar futures and decide the timing of trades

EXTRA-CURRICULAR ACTIVITIES

Academic Department of the Student Union| Member | PKU *Sep 2014-Sep 2015*

- Wrote the advertising manuscript for the experience exchange meeting in the School of Economics
- Invited 5 teachers to conduct educational seminars for Challenge Cup; wrote the news release, as an integral part of publicity

School of Economics| Teaching Assistant | PKU *Mar 2017-Jun 2017*

- Collected homework and papers from students and organized students to attend related lectures
- Solicited advice from students and assisted teachers to improve the quality of class based on their suggestions

SKILLS & OTHERS

- Languages: Mandarin (Native), English (fluent)
- Computer Skills: C, C++, Python, MATLAB, STATA, SAS, EVIEWS
- CFA Program Level I Passed

Yufeng Chu

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EDUCATION

Columbia University, Graduate School of Arts & Sciences Sep 2018 – *Expected Dec 2019*

- Master of Arts in Mathematics with Specialization in the Mathematics of Finance
- GRE 330 (Q 170)

University of Washington, College of Art & Science Sep 2014 – Jun 2017

- Bachelor of Science, Major in Economics, ***GPA: 3.86/4.0***
- *Cum laude* (June 2017), Outstanding Scholar (June 2017), Annual Dean's list (For all 3 academic years)
- Relevant Courses: *Probability and Statistics for Computational Finance, Computer Programming I& II, Differential Equation, Matrix Algebra, International Finance*

TECHNICAL SKILLS

- Java, R, VBA, MATLAB
- Familiar with Wind and Bloomberg Financial Terminal, OCLC, Alma, Citrix, Lotus Notes

PROFESSIONAL INTERNSHIP EXPERIENCE

Administrative Department, CIC Capital Corporation Nov 2017 – Jan 2018

- Scheduled meeting for the Investment Management Committee and involved in decorating meeting hall, distributing meeting plan and gathering participants
- Examined the application form of project team to prepare for the Investment Decision Meeting
- Filed the documents of the Investment Management meetings in the past two years and projects proposals of the in negotiation, ongoing and completed stages
- Summarized the cutting-edge research reports of the research departments of CIC Capital Corporation

Global Quantitative Investment Department, China Merchants Fund Oct 2017

- Evaluated the PEG index of the major economic entities other than the United States by simulating the computing method of Peak PEG proposed by Fasanara Capital to support investment decision
- Independently built the semi-auto updated Real PEG index model based on VBA tailored to the specific requirement of our company, covering more countries and having higher reference value
- Applied Matlab to code the differences between the stock return in 60 days of the 20 and 80 quantiles stocks in the past 13 years

Research Department, CITIC Securities July 2017 – Sep 2017

- Involved in the early stage due intelligence investigation on the TMT industry practiced by the 20 people team consisted of buy-side managers and executives
- Composed four-pages investment strategy report based on my unique understanding of the overall financial situation, strategic planning and product development of four target companies
- Wrote the professional research summary efficiently by listening to and translating the investigation recordings of the research team in the United States
- Followed up the investigation by making summaries of the tele-conference between investors and the investor relationship department of target company, and capable of releasing the high-quality summary to client within an hour of meeting

Quantitative Trading Department, CCB Principal Asset Management June 2015 – Aug 2015

- Collected data from Wind underlying database, extracted the factor panel data and dealt with data
- Factor Test--tested the validity of data, divided stocks into several groups according to the corresponding factors, back-tested the 10 groups of stock and added the factor into factor bank
- Multi factor scoring stock selection--composed strategy using different weighted factors and chose the highest score of 50 or 100 stocks to build a portfolio
- Made the quick back-test and accurate back test using the position strategy portfolio

EXTRA-CURRICULAR ACTIVITY AND LEADERSHIP EXPERIENCE

Student Assistant, University of Washington, East Asia Library Jan 2015 – June 2017

- Alphabetically sorted the books in the stack using the Fuzzy Sorting algorithm according to the spreadsheet structure in excel to find the missing or incomplete volume in lieu of the traditional hand work, optimizing the speed of sorting greatly
- Got skilled at using the library management software OCLC and Alma
- Identified more than 1000 kinds of rare books and 10,000+ books not stored in UW

Dais Head, Fudan University International Model United Nations Feb 2016 – July 2016

- Recruited eight Dais members through interview and led the Dais members team of 60 representatives
- Led the team to write the background guides of more than 200,000 words
- Designed the quantitative model to evaluate the battle damage during the ancient cold weapon war

Michael Copeland

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Education

Columbia University **New York, New York**

Master's in Mathematical Finance August 2018 – December 2019

- **GPA:** NA
- Graduate student at Columbia University's Masters in Mathematics of Finance

University of California, Berkeley **Berkeley, California**

Bachelor of Arts in Economics August 2013 – May 2017

- **GPA:** 3.4 / 4.0
- **University Coursework:**
  Mathematics: Differential Calculus, Multivariate Calculus, Linear Algebra, Probability.
  Statistics: Quantile Regression, Diff in Diff Regression, Applied Econometrics, Survival Analysis.
  Economics: Solow Growth Models, Krugman Models, International Money Market.
  Finance: Put Call Parity, Equity and Fixed Income Hedging, Behavioral Finance.

Work Experience

Duff & Phelps **New York City, NY**

Disputes & Investigations Intern

- Composed weekly cryptocurrency letter containing news items and thought pieces disseminated internally
- Assisted in formulation, standardization and implementation of internal due diligence process for reviewing potential Initial Coin Offering engagements and other cryptocurrency/blockchain businesses
- Assisted in formulation of due diligence documentation for $18.5 billion international hedge fund
- Assisted in creation of blockchain and cryptocurrency training slides for government regulatory agencies

Bayesquare **New York City, NY**

Researcher/Scientific Writer July 2017-June 2018

- Composed articles regarding research methods being used in various machine learning projects
- Assisted in administrative matters including compilation of technical guides for use by researchers
  Contributed to research projects by guiding tasks of other researchers and investigating econometric models

Allianz **Munich, Germany**

Full Time Intern at Market Risk Management May-August 2015

- Worked on solvency and liquidity risk and investigating risk of Group Level Alternative Assets
- Reports for team and department regarding: IMF, OECD, and China Equity Sell-Off.
- Conducted independent interviews with various departments to gauge flow of alternative assets information.
- Developed tool in assessing liquidity, standardized from various departments regarding alternative assets.

Project/Paper

Industry Rotation and Time Varying Sensitivity by VIX

- Conditionally accepted by the *Journal of Portfolio Management* for its 2018 Special Issue
- Investigate cross-sectional industry returns and their moments under uncertainty proxy by VIX
- Postulate general optimal Assets Allocation strategy using industry sensitivities to VIX

Skills and Qualification

Technical Skills: Stata (1 year), Python (Certificate), R (Certificate), Microsoft Office, Excel
Interests: Strategy games, Chess, Central European history
U.S. Citizen

MICHAEL DEMIAN

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EDUCATION

MA, Mathematics of Finance, *Columbia University, New York, NY* Sept 2018 – Present

- Coursework includes: Statistical Interference, Time-Series Modelling, Stochastic Processes, Numerical and Stochastic Methods in Finance

BSc, Honours Biophysics, *University of British Columbia,* Vancouver, BC Sept 2010-Nov 2015

- Coursework includes: Probability, Statistics, Computer Programming, Single and Multivariable Calculus, Differential Equations, Complex Variables, Application of Mathematical Models, Mechanics, Relativity and Electronics,

EXPERIENCE

Accounts Payable Development, *Lush Cosmetics North America*, Vancouver, BC Sept 2017-Aug 2018

- Review system processes, identifying inefficiencies in workflow that could be improved
- Liaise with different software providers to figure out how they can tailor their product to best suit our individual needs
- Creating Macros and VBA script to decrease time spent manipulating excel data for coding and processing

Accountant, *Watchmen for the Nations*, Vancouver, BC Mar 2016-Sept 2017

- Prepared digital copies of all receipts to verify and categorize expense claims submitted towards the charity
- Created the annual financial statements, issued tax receipts, and prepared all annual forms required to maintain charitable status

Teacher, *Sharefun Bilingual Academy*, Tainan, Taiwan May 2015-Mar 2016

- Developed lesson plans for the expansion of a bilingual academy in Tainan, as they launched one of the only English-based schools in the region
- Identified common weaknesses with English grammar, spelling, phonics and pronunciation to second language learners, and taught with tailored lessons to combat these weaknesses
- 100% of students taught in the bilingual academy passed all standardized English exams issued by the school board in Tainan

Research Assistant, *BC Cancer Research Centre,* Vancouver, BC May 2014-Nov 2015

- Analysed and tested previously produced silicone skin creations to determine the best method of production for skin research under 454 and 908 nm wavelength lasers
- Created the first standardized model of the bulk optical properties in the fabrication of model silicone skin lesion, which can be applied with any scattering, roughness or absorption level, minimizing the cost of future research, through phantom creation
- Recommended different fabrication methods of silicone skin for future work in skin cancer research replicating many disease types including, melanoma, seborrheic keratosis, and basal cell carcinoma

Teaching Assistant, *UBC,* Vancouver, BC Sept 2012-Nov 2015

- Organized and ran tutorials for first year university physics courses, with an emphasis on understanding of the application of mathematics in physics
- Created a diagnostic to test the mathematical, statistical and physics background of incoming students, distinguishing areas that need the most in class-time for future lectures
- Taught mathematics and statistics to academically-gifted high school students wanting to advance further in their respective fields

ADDITIONAL INFORMATION

Skills: Repairing various electronic hardware and circuitry, level 3 medic first aid, provincially ranked track and field athlete, Matlab, Mathematica and other mathematical software
Volunteer Work: Soccer coach for youth in Taiwan, ran prep tutorials for local high school final exams, mentored at an afterschool program for underprivileged children in low-income areas, participated in Syrian refugee relief in Jordan.
Interests: Computers, soccer, basketball, travelling, reading and music
Languages: English (native), Spanish (beginner) and Mandarin (beginner)

ADITYA DESAI

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EDUCATION

Columbia University, New York, USA *Sep 2018 – Dec 2019 (expected)*

- MA candidate in the Mathematics of Finance
- Key Coursework – Stochastic Processes and Applications, Statistical Inference/Time Series Analysis, Mathematics of Finance, Programming for Quantitative and Computational Finance (C++)

College of Engineering Pune, Pune, India *Aug 2014 – May 2018*

- B. Tech in Electronics and Telecommunications Engineering
- GPA – 7.51/10
- Key Coursework - Numerical Analysis, Probability and Statistics, Partial Differential Equations, Fourier transform, Stochastic Processes

PROFESSIONAL EXPERIENCE

FinIQ Consulting Pvt. Ltd. India
Intern in Quant Team *May 2018 – July 2018*
FinIQ is a Singapore-based wealth product distribution technology provider for FX, Equities, Derivatives, Fixed Income, Funds and Structured products.

- Familiarized myself with various structured products like Equity Linked Notes, Fixed Coupon Notes, and their pricing along with pricing of vanilla, barrier, and FX options.
- Studied applications of Black-Scholes-Merton, Dupire, and Heston models in derivative pricing.
- Compared different interpolation techniques – cubic spline, bicubic spline, and bicubic interpolation – for efficiency and accuracy for implementation in Dupire's local volatility model.
- Assisted the quant team as they came up with more efficient ways of evaluating the Dupire model using Monte-Carlo simulations.
- Calibrated Heston model parameters using market data using 'Most Likelihood Estimation' and 'Method of Moments' and compared the results of the two methods for application in updated versions of the products.
- Studied implications of implied volatility and briefly worked on the Vanna-Volga method.
- Conducted a mathematics primer for new employees.
- Used C++, Python, Excel, etc. working on these projects.

SCICOM-SOFTWARE
Summer Intern *May 2017 – July 2017*
SCI-COM offers Engineering Software Services in the field of digital Image Processing, Numerical Analysis and Scientific Computing.

- Work consisted mostly of inhouse research as company ventured into the machine learning domain. I had to explore machine learning approaches to existing problems.
- Worked with various machine learning models including convolutional neural networks and decision trees.
- Projects included path detection for autonomous driving and segregation of items inside bags based on material using X-ray imaging data.
- Used Python, Tensorflow, Numpy, OpenCV, Pandas, etc. for developing these projects.

COMPUTING AND LANGUAGE SKILLS

- Programming: Python, MATLAB, C, C++
- Certifications: Financial Markets – Robert Schiller – Yale (Coursera)
  Machine Learning – Andrew Ng – Stanford (Coursera)
  Neural Networks – Geoffrey Hinton – University of Toronto (Coursera)
- Languages: English (Fluent) – Hindi (Native) – Marathi (Native) - German (Elementary)

ADDITIONAL INFORMATION

- Positions: Captain of the College Rowing Team, Secretary of the Boat Club
- Sports: Rowing, Badminton
- Interests: Traveling, War history, Fiction, Trekking

Quan Du

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EDUCATION

Columbia University in the City of New York **New York, NY**
Master of Arts in Mathematics of Finance Expected December 2019

University of Michigan, Stephen M. Ross School of Business **Ann Arbor, MI**
Bachelor of Business Administration, with High Distinction April 2018

- GPA: 3.7/4.0

University of Michigan, College of Literature, Science, and the Arts
Bachelor of Science in Economics with Honors, Minor in Mathematics

WORK EXPERIENCE

Madison Park Group **New York, NY**
Investment Banking Summer Analyst June 2018 – August 2018

- Handled buy-side M&A for software company of $6 million revenue and helped the client company find private equity firm to invest in the company based on acquisition growth strategy, building a list of more than 100 potential investors
- Constructed part of M&A model on stand-alone and consolidated basis, including revenue and expense projections under base and upside cases, advising the client a strategy to double annual revenue growth after acquisition to 30%
- Analyzed statistics and operation strategies of target companies within the technology sector by creating spreadsheet of more than 5,000 potential merger and acquisition firms

Department of Economics, University of Michigan **Ann Arbor, MI**
Independent Undergraduate Macroeconomics Researcher September 2017 – March 2018
Project: Does Debt Overhang Impact Investment?

- Gathered and manipulated national economic data to find impact of debts on the heavily indebted poor countries
- Conducted panel data analysis and two-stage least squares regression to evaluate the influence of debt on GDP and investment
- Applied time series analysis to the economic model to improve accuracy and reported findings in written article

Romero Capital **New York, NY**
Equity Research Intern June 2017 – August 2017

- Presented stock investment ideas by reviewing earnings calls, SEC filings and management presentations to CEO on 5 mid-cap stocks in semi-conductor and retail industries, pitching investment recommendations for portfolio management
- Performed comparable company and DCF valuations by building detailed models for stock analysis to examine financial outlook, in addition to practicing M&A and LBO models of sample companies for training purposes
- Wrote 20+ page equity research report, including catalysts, risks, industry trend analysis and football field for price prediction

Morgan Stanley Capital International **Beijing, China**
Risk and Analytical Research Assistant May 2017 – June 2017

- Utilized MATLAB for computing value of American-styled option written on non-dividend paying stocks and worked on Monte Carlo simulation-based Value at Risk for options by using MATLAB and C++
- Studied asset allocation to create more profitable investment strategy by evaluating performances of covariance forecasting techniques within mean-variance portfolio optimization

LEADERSHIP EXPERIENCE

Dream Corps for Harmonious Development International **Ann Arbor, MI**
President and Chapters Officer September 2014 – Present

- Organized and guided chapters in 10 universities across North America to provide funds and volunteers to improve the environment for learning and development of children in rural China
- Led a team of 50 people to direct two annual shows in the University of Michigan chapter, attracting more than 1,200 audience and collecting $10,000 donation in total
- Built slides, wrote proposals and pitched to potential sponsors, attracting more than 10 sponsors including restaurants, housing agencies, and retailers for one of the annual shows, Mid-Autumn Festival Gala, with $3,000 sponsored

SKILLS, ACTIVITIES and INTERESTS

Technical: VBA, C++, MATLAB, Python, Thomson ONE, Stata, Bloomberg, FactSet, Barra
Language: Native in Mandarin, Fluent in English, Elementary Spanish
Other activities: Initiated an awareness campaign for fraud among thousands of international students
Interests: charcoal drawing, cooking Chinese cuisine, Taekwondo black belt

Xinyi Fan

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EDUCATION

Columbia University **New York, NY**
Master of Art in Mathematics with Specialization in Mathematics of Finance *Expected Dec 2019*
• Coursework: Introduction to the Mathematics of Finance, Stochastic Processes and Applications, Statistical Inference and Time-Series Modeling

University of Rochester **Rochester, NY**
Bachelor of Science in Applied Mathematics & Bachelor of Art in Financial Economics *May 2018*
Minor in Psychology as a Social Science, Business, and Statistics
• GPA: 3.91/4.0
• Honors: MAGNA CUM LAUDE; Awarded High Distinction in Math Dept; Awarded Distinction in Econ Dept; Awarded John Dows Mairs Prize for producing one of most outstanding records in Econ Dept; Dean's List for all eligible semesters
• Relevant Coursework: Micro and Macro-economics, Econometrics, Game Theory, Financial Management, Investments, Financial Mathematics, Complex Variables, Operations Research, Probability& Math Statistics, Applied Statistics, Computer Science, Marketing

INTERNSHIPS

Guotai Junan Securities (GTJA) **Shanghai, China**
Summer Intern in Finance Division of Investment Banking Department *Jul 2018-Aug 2018*
• Assisted in issuing Tier-2 Capital Bonds for Shanghai Pudong Development Bank Co., Ltd, Bank of Langfang Co., Ltd and Shanghai Rural Commercial Bank, and issuing Green Financial Bonds for Zhejiang Anji Rural Commerial Bank Co., Ltd.
• Communicated with banks, collected historical data, and prepared written materials such as announcements and applications for banks.

New Times Securities Co., Ltd. **Shanghai, China**
Summer Intern in Small & Medium Market Capitalization Division of Research Institute *Jun 2018-Jul 2018*
• Studied several industry leading companies in Chinese maternal and child supplies market. Compared advantages and disadvantages among companies, analyzed their profitability, and estimated their future development.
• Compared Chinese maternal and child industry to Chinese drug retailing industry, analyzed their similarities and differences, and estimated development prospects of maternal and child industry based on the more developed drug retailing industry.

Guotai Junan Securities (GTJA) **Shanghai, China**
Summer Intern in Capital Market Division *Jul 2017-Aug 2017*
• Assisted in shares' allotment project of Inspur Electronic Information Industry Co., Ltd
• Promoted new shares to the former shareholders and convinced them to buy through telephones, making for 96% of the shares being allotted
• Made weekly reports on A-share market such as IPO, financing projects, constant increase projects etc.
• Collected and analyzed data of ZPEC's major shareholders in support of ZPEC's IPO

China UnionPay **Shanghai, China**
Summer Intern in Data Analysis Group of Business Department *May 2016- Aug 2016*
• Collected and analyzed a large amount of historical data on payment methods, rural market potential, number of cards issued from major commercial banks and so on
• Conducted market analysis on the payment methods of supermarkets, restaurants, and department stores etc.

PROJECT

Machine Learning on Zillow's Home Value Prediction (Zestimate), *Data Science Intern* *Sep 2017-Nov. 2017*
A cooperated data science project organized and sponsored by Wootloud Inc. and UCB, aims to improve the Zestimate and consequently make predictions for Zestimate's log errors based on machine learning methods
• Created a model by using Anaconda with Python 2.7 to predict the log error of Zestimates (regression) and sign of log error (classification) by steps of data exploration (from among 90, 275 transaction records), regression modeling, classification modeling, summary and prediction

ACTIVITIES

Teaching Assistant, Math Dept & Chinese Dept, *University of Rochester* *Jan 2017- May 2018*
• Solved students' learning problems in office hour and assisted in grading homework and exams

Assistant, Center for Excellent Teaching and Learning, *University of Rochester* *Jan 2017- May 2017*
• Took notes for disabled students to help with their study

Vice president, Golden Key International Honor Society, *University of Rochester* *Sep 2016- May 2018*
• Marketed the society to the public to attract attention and recruited qualified members for suitable position
• Holding events such as introduction ceremony

SKILLS

• Technical: STATA, MINITAB, LATEX, EXCEL, JAVA, R, PYTHON
• Language: Mandarin (native), English (proficient)
• Certificate in Actuarial Study, *University of Rochester* *May 2018*
• Certificate in Mathematical Modeling in Political Science and Economics, *University of Rochester* *May 2018*

SEN FU

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EDUCATION

Columbia University New York, NY
Master of Arts in Mathematics of Finance Sep 2018 – Dec 2019
- Coursework: Statistical Inference/Time-Series Modeling, Stochastic Methods, Numerical Methods in Finance

University of International Business and Economics Beijing, China
Bachelor of Economics in Banking and Finance Sep 2014 – Jul 2018
- GPA: 3.82/4.00 (rank: 3/29)
- Awards/Honors: Outstanding Graduate (top 4%), Successive 4-Year Merit-Based Scholarship (top 6%); Meritorious Award in Mathematical Competition in Modeling (top 1%)

University of California, Berkeley Berkeley, CA
Summer School, Haas Business School Jul 2016 – Aug 2016
- GPA: 4.00/4.00 (rank: 1/60); Corporate Finance & Financial Statement Analysis (A+)

WORK EXPERIENCE

Guotai Junan Securities (top 3 stock brokerage firm in China) Beijing, China
Analyst, Equity Research Division Feb 2018 – Aug 2018
- Wrote daily and weekly market reports (uploaded to Wind for 1000+ subscribers) on TMT industry by gathering data on 188 companies and comparing their performance using financial report analysis
- Produced 27-page research report offering investment advice based on analysis of M&A deal between two leading TMT companies and their business models; report was sold to Guotai Junan's institutional investors
- Independently represented TMT research team at 5 key industry conferences to gather market trend insights
- Collected and collated data on ratings of imported movies over 10-year period, used data to draft 14-page research report on market size and expected future trends of China's film industry

Ernst & Young Jinzhou, China & Beijing, China
Winter Intern, Auditing Division Jan 2017 – Feb 2017
- Performed due diligence on key company (~$2bn total assets) in China's metallurgical industry; built long-term business relationship with company by having weekly lunches with CTO and other staff
- Verified authenticity of client company's expenses (~$1.5bn), conducted inventory valuation tests, assisted senior auditors in compiling 20 working papers on different financial accounts
- Collated and updated 3 annual audit reports using financial statement analysis; earned top rating (4.85/5.00) out of 100 interns and return offer

BMW Automotive Finance (China) Beijing, China
Data Analyst, Sales and Strategy Division Sep 2016 – Dec 2016
- Completed daily financial reports and made sales-related data visualizations to assist in strategic decisions
- Created mathematical models using Excel to simplify work procedures and allow 5-hour task to be completed in 1 hour
- Analyzed critical financial products; maintained monthly Excel database; managed relationships with 20 banks

Roland Berger Management Consultants (Shanghai) Beijing, China
Analyst, Consulting Division Aug 2016 – Sep 2016
- Assessed client company's competency for entering new market using market research and benchmark analysis; drafted 3 presentation slides
- Created new evaluation metrics to measure client company's competitiveness in promotion and distribution channels; earned top rating (A/A) for excellent performance

RESEARCH & ACTIVITIES

Dean's Research Group, School of Banking and Finance, *Research Assistant* Oct 2017 – Dec 2017
- Independently discovered phenomenon of pre-IPO company relocation; analyzed relevant corporate strategies
- Discovered correlation between anti-poverty policies and likelihood of pre-IPO business relocation

"I Want My Breakfast" Entrepreneurial Project, *Founder and President* Oct 2014 – Dec 2014
- Developed business model; led team of 36 members and earned monthly income of ~$3,000
- Found several partners and negotiated cross-promotion agreements; created online order system

ADDITIONAL INFORMATION

- Language Skills: English (Fluent, TOEFL Speaking: 28/30); Mandarin (Native)
- Computer Skills: MS Office Suite, Python, C++, Matlab, R, Stata, Bloomberg, Wind, LaTeX
- Interests: Violin (5 years of training, performed twice in public), Figure Skating (10 years of training)

YUNKE GAN

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EDUCATION

Columbia University, Graduate School of Arts and Science, New York
M.A. in Mathematics of Finance **Sep 2018 – Dec 2019**

- Coursework: Introduction to the Mathematics of Finance, Programming for Quantitative and Computational Finance, Fixed Income Portfolio Management, Stochastic Processes and Applications, Statistical Inference and Time-Series Modeling, Hedge Funds Strategies and Risk.

Renmin University of China, Undergraduate Pilot Program in Mathematics and Finance, Beijing, China
B.S. in Mathematics and B.Econ. in Finance **Sep 2014 – Jun 2018**

- Cumulative GPA: **3.72**/4.0 (Major GPA: **3.81**/4.0)
- Awards: Merit Scholarship (5%), Meritorious Winner in 2017 Interdisciplinary Contest in Modeling (10%).
- Coursework: Mathematical Analysis, Advanced Algebra, Mathematical Statistics, Probability, ODE, Data Structures, Stochastic Processes, Financial Derivatives, Mathematical Modeling, Corporate Finance, etc.

EXPERIENCE

Trexquant Investment LP, Beijing, China
Global Alpha Researcher **Apr 2018 – Aug 2018**

- Statistical Arbitrage: Developed over 1000 effective and uncorrelated statistical arbitrage trading alpha signals by reviewing academic papers with different topics (Fundamental, Reversion, Event-Driven, etc.).
- Data Mining: Developed algorithms to combine and filter statistical arbitrage trading alpha signals and made them to be 'trophy' alpha signals (high IR, low drawdown & turnover, etc.).

Founder Securities, Beijing, China
High-frequency Quantitative Intern, Trading Business Division **Oct 2017 – Feb 2018**

- Quantitative Research: Established survival analysis model for the company to estimate the probability of limit-order execution using python and based on tick data, increased the estimation accuracy by 30%.
- Data Cleaning: Filled in missing fundamental data using linear interpolation method, deleted unreadable values and corrected outliers.

MSCI Inc., Beijing, China
Remote Risk Management Intern, Risk Management Division **Sep 2017 – Oct 2017**

- Derivatives Pricing: Priced European exotic option using BS Option Pricing Model, Binomial Option Tree Model and partial differential method.
- Risk Management: Calculated VaR for portfolios and verified VaR with Monte Carlo Simulation.
- Portfolio Optimization: Applied algorithms like shrinkage estimation to estimate covariance matrix for portfolio optimization in Chinese A-share market, reducing the portfolio return variance by 2.43%.

Beijing Renaissance Era Investment Co., Ltd. , Beijing, China
Quantitative Research Intern **Jul 2017 – Sep 2017**

- Alpha Research: Constructed profitable and uncorrelated live trading alpha factors for the company to select and trade stocks in Chinese A-share market.
- Leadership and Teamwork: Led a team of interns to build factor testing python demos and tested the performance of alphas to select stocks, increasing team's working efficiency by over 50% and finishing testing 53 factors out of 191 on my own in the "Alpha 191 Project".

PROJECTS

Forecast Whether Individual Customers Will Pay off the Debt in Time **Apr 2018**

- Machine Learning: Applied Logistic Regression, KNN and Naïve Bayes algorithm to forecast whether lenders will pay off the debt on time and implemented OLS to predict overdue period.
- Data Cleaning: Deleted missing values, corrected outliers and performed data standardization.

Explore the Relationship between Aumann-Serrano Index and VIX **Aug 2017–Jul 2018**

- Problem-solving: Calculated Aumann-Serrano index with parametric approach and applied Jump Regression method to explore the relationship between Aumman-Serrano index and VIX.

SKILLS

Software: C/C++, Python, MATLAB, R, STATA, Microsoft Office, SPSS, Eviews
Languages: English (Fluent), Chinese (Native)
Interests: Soccer, Guitar, Calligraphy, Sketch, Table Tennis, Photography, Swimming

ARAVIND GANESAN

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SUMMARY OF QUALIFICATIONS

- Former Investment Banker with ~5 years of experience in working on transactions (Private Equity / Mergers & Acquisitions / Capital Markets) amounting to ~USD 1 Bn
- Strong academic background in Business Administration, Finance, Mathematics and Engineering
- Cleared CFA L1 and CFA L2

EDUCATION

Columbia University in the City of New York New York, USA
Master of Arts, Mathematics of Finance Expected Dec '19
Relevant Coursework: Time Series Modelling (R), Stochastic Processes, Quantitative Methods in Investment Management

Indian Institute of Management Indore Indore, India
MBA (Finance) Mar '13
Relevant Coursework: International Finance, Investment Banking, Business Analysis and Valuation, Diversification Strategies, Mergers acquisition and corporate restructuring, Project appraisal finance, Securities analysis and portfolio management

Anna University Chennai, India
Bachelors of Engineering in Electrical and Electronics Jun '09
Relevant Coursework: Calculus, Linear Algebra, Probability and Statistics, Computer Programming, Optimization

EXPERIENCE **Cumulative: 6 Years**

Spark Capital Advisors (India) Pvt. Ltd. Chennai, India
Assistant Vice President, Investment Banking Jan '14 – Jul '18

- Experienced Investment Banker in one of India's leading mid-market focused Investment Banks (Established in 2001, consummated transactions worth ~USD 5.6 Bn)
- Involved in the entire spectrum of deal making from identifying potential deal ideas, building financial model, preparing information memorandum, marketing the opportunity to potential investors, constructing valuation argument, structuring the deal and leading documentation
- Extensive experience of working with ~25 companies across Technology, Healthcare, Consumer and Financial Services sectors for potential funding and M&A transactions amounting to ~USD 1 Bn
- Successfully consummated transactions worth ~USD 120 Mn
- Received two promotions since joining in Jan 2014
- Lead recruitment as well as training efforts for Analysts

Fidelity Investments Chennai, India
Executive Management Trainee May '13 – Dec '13

- Underwent training as Business Analyst for Fidelity's Technology division
- Involved in researching and delivering solution for issues faced by the fund accounting team

Cognizant Technology Solutions Chennai, India
Programmer Analyst Trainee Dec '09 – Jun '10

- Successfully developed an application to facilitate cost reduction by adhering to evidence-based clinical best practices and encouraging preventive care over more expensive reactive care. Reduced error occurrence in the modules by 20%

EXTRA-CURRICULAR ACTIVITIES

Secretary, Alumni Committee, Indian Institute of Management Indore 2012-2013

- Organized events across 6 cities and initiated mentorship program for students

Jr. Financial Advisor, Management Symposium, Indian Institute of Management Indore 2011-2012

- Budgeting and managing funds of about USD 60K and scheduling payments to match with inflows

Joint Secretary, Technical and Cultural Symposium, Anna University 2006-2007

- Organized annual technical symposium and cultural festival

SKILLS AND CO-CURRICULAR ACHIEVEMENTS

- Cleared CFA L1 and CFA L2 Jun '11 and Jun'12
- Obtained Certification in Microeconomics, London school of economics and political science Jul '09 – Aug '09
- Technical –Bloomberg, R, Microsoft Excel, Microsoft Powerpoint, C++, Matlab

INTERESTS: Investing, playing sports (Cricket, Football, Badminton and Table Tennis), long distance running and cycling

Huimin Geng

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EDUCATION

Peking University **Beijing, China**

Bachelor of Economics **2014.09–2018.07**

GPA: 3.71/ 4.00

➢ ***Major in Finance***

- **Major Coursework:** Linear Algebra (100); Probability Theory and Statistics (100); Microeconomics (90); Advanced Mathematics (95); Macroeconomics (93); Financial Economics (91); Time Series Analysis (95); Investment Funds (95); Accounting (91); Investment (88); Financial Engineering (87); Corporate Finance(84); Fixed Income Analysis(82)

➢ ***Minor in Applied Mathematics***

- **Major Coursework:** ODE (97); Statistics (91); Advanced Algebra (87); Mathematical Analysis (87); Operations Research (87); SAS (92);

INTERNSHIP

Min Sheng Securities **Beijing, China**

Investment Banking Department **2017.1-2017.3**

- Assisted the manager in verifying the income of a client company, specifically in checking the completeness and validity of 132 sales contracts, and acceptance reports. Marked and recorded questionable papers precisely.
- Checked the completeness and validity of 144 volumes of working papers, guaranteeing all dubious papers documented precisely and got a holistic idea about the documentation of due diligence.

Ping An Capital **Beijing, China**

Private Equity Investment Division ***2018.07-2018.11***

- Drafted research reports on four companies which belongs to display screen, tourism, education and medical care industry respectively, from industrial and corporate perspectives.
- Selected six comparable private education company cautiously and carried out relative valuation on the target company

RESEARCH EXPERIENCE

Research Assistant of Financial Market Integration Project **2017.07-2017.12**

- Collected exchange rate data and silver prices in 1902-1926, and built TAR model using STATA to estimate the degree of market integration

Senior Thesis *Credit Spread Puzzle in China's Bond Market* **2018.01-2018.04**

- Built Merton model, diffusion model with stochastic interest rate and with stochastic asset premium using MATLAB, compared model-implied return rates with historical ones and assured the credit spread puzzle phenomenon in China's bond market

SKILLS & INTERESTS

Languages: Mandarin **Programming Languages:** Python **Interests:** jogging

RAN HAIMING

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EDUCATION

COLUMBIA UNIVERSITY New York, NY
Candidate of Master of Arts, Major in Mathematics of Finance Sept. 2018

- Coursework: Statistical Inference, Stochastic Processes, Stochastic Methods in Finance, Numerical Methods in Finance, Advanced Data Analysis, Big Data in Finance, Programming for Quant and Comp Finance, Multi-Asset Portfolio Management, Machine Learning, Python, C++

FUDAN UNIVERSITY Shanghai, China
Bachelor of Economics, Major in Public Finance July 2018

- Major GPA: 3.64/4.00, Rank 2/31
- Awarded National Scholarship for Academic Achievement (top 2%), Fudan Entrance Full Scholarship, Third Prize of the Scholarship for Outstanding Students
- Exchange student at Gothenburg University from Aug 2016 to Jan 2017; attended Nobel Week Dialogue

WORK EXPERIENCE

70 CAPITAL MANAGEMENT Shanghai, China
Quantitative Strategy Intern June 2018 – Aug. 2018

- Developed more than 100 trading strategies whose average return over 20% and Sharpe ratio over 4.0 using intra-day and daily price-volume data with *C++*
- Back-tested strategies using multi-threading with *Python*

QTG CAPITAL MANAGEMENT COMPANY Shanghai, China
Quantitative Strategy Intern Sept. 2017 – Dec. 2017

- Developed, back-tested and visualized a CTA strategy based on MACD using *Python* (packages: numpy, scipy, pandas, matplotlib)
- Achieved annualized return of 39.72% and Sharpe Ratio of 3.54 by implementing fast Fourier transformation (FFT) method and Monte Carlo method in optimization
- Assisted in analyzing the trading system in use; divided into 10 functional sub-systems to apply for software copyright

ZHONGTAI SECURITIES Shanghai, China
Summer Analyst Intern, Department of Equity Research June 2017 – Sept. 2017

- Delivered a 14-page investment report on a listed company, offering references to fund managers; analyzed the feasibility of several acquisitions and projected earnings in the next 3 years
- Conducted thorough research on vocational education market including 5 sub-sectors; delivered an 11-page research report with analysis of 2 flagship companies and 3 profit modes as part of a collection of reports
- Parsed and updated the operational data & financial data of 9 companies that ran non-government schools in China to provide material for a 40-page report

LEADERSHIP ACTIVITIES AND RESEARCH PROJECT

Fudan Film Association Sept. 2015 – Jan. 2016

- Assigned members to watch, critique, and debate over themed movies; devised and organized occasional events
- Led a 10-member group to stage open-air film festival of 90s Hong Kong films, in cooperation with two other associations; attracted 100 viewers on average every day for a week

Xiyuan Research Project Leader June 2017 – Present

- Independent research sponsored by Fudan's Undergraduate Research Opportunity Program
- Leaded a group of four to conceive, organize and conducted the research on interest rate sensitivity analysis of listed insurance companies in China using weekly stock prices, market portfolio returns and 10-year Treasury Bond returns during low-rate period

ADDITIONAL INFORMATION

- Certification: CFA Level II candidate
- Programming**:** Python, C/C++, STATA, MATLAB, SQL Server, SPSS,EXCEL VBA, MS Office
- Languages: Fluent in English and Mandarin;

Xinyu (Angela) Hong

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EDUCATION

Columbia University **New York, NY, USA**
Master of Arts in Mathematics of Finance Expected December 2019

Agnes Scott College **Decatur, GA, USA**
Bachelor of Arts in Mathematics-Economics, Minor in Music August 2015-May 2018
Honors: *summa cum laude* (GPA: 3.93), member of Phi Beta Kappa, received Founders Scholarship and Nannette Hopkins Music Scholarship
Relevant coursework: Investments, Econometrics, Financial Accounting, Intermediate Programming

EXPERIENCE

Morgan Stanley Wealth Management **Atlanta, GA, USA**
Financial Services Intern for Constance Woods, CIMA January 2018-May 2018

- Researched and analyzed investment portfolio strategies using Fi360, Morningstar and Overlap
- Prepared presentation slides for the financial advisor's annual due diligence meeting for four major clients
- Compiled quarterly reports for institutional clients through Morgan Stanley's internal system - 3D
- Collected more than 130 prospects' information via Salesforce, Outlook contacts and WealthEngine for the financial advisor's annual prospecting conference

PricewaterhouseCoopers **Qingdao, Shandong, China**
Risk Assurance Intern July 2017-August 2017

- Presented an internal control report with a team of five to a Chinese public company to help the company better meet China-SOX requirement and efficiently utilize ERP system
- Identified and analyzed risks in business processes by interviewing multiple departments in the client company, including Finance, Human Resources and Marketing
- Conducted market research and summarized the trading history of the company's major shareholders

CAMPUS INVOLVEMENT

Economics and Business Department, Agnes Scott College
Economics Learning Center Tutor August 2017-May 2018

- Selected through application and faculty recommendations to assist students with courses including Financial Accounting and Intermediate Macroeconomics for nine hours a week

Office of Academic Advising, Agnes Scott College
Peer Advisor March 2017-May 2018

- Selected through competitive interview to guide 18 incoming first-years with transition into college
- Connected with admitted students to answer academic inquiries via emails, Facebook and in-person

Asian Studies Department, Agnes Scott College
Research and Teaching Assistant for Jing Paul, PhD January 2017-May 2018

- Transcribed and coded interview video clips in Microsoft Excel to enable analysis for linguistic research
- Led weekly workshops to help Chinese learners with assignments and language projects

Black Cat, Agnes Scott College
Indoor Decoration Chair September 2016

- Designed indoor decorations for college's homecoming week using a limited budget
- Led more than 50 students in completing the decoration within two hours

SKILLS

- Proficient in Python, STATA, LaTex, Microsoft Excel, Word, and PowerPoint
- Fluent in English and Mandarin

Sibing (Evelyn) HOU

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EDUCATION

Columbia University **New York, U.S.**
Master of Arts in Mathematics with specialization in Mathematical Finance (MAFN) *09/2018 - Present*

University of International Business and Economics (UIBE) **Beijing, China**
Major: *Finance* ***Double Major:*** *Information Management and Information System* *09/2014 - 07/2018*
Major GPA: *87/100* ***Double Major GPA:*** *90/100 (top 5%)*

- **Courses:** Financial Engineering; Application Analysis of Financial Engineering; Data Mining and Financial Engineering; Financial Risk Management ; Operations Research; Java; C++ ; C; Scientific Computing and MATLAB Applications
- **Awards:** First Prize, Contemporary Undergraduate Mathematical Contest in Modeling (CUMCM)
  Honorable Mention, Mathematical Contest in Modeling (MCM)
  Second Prize, National English Contest for College Students
  University Merit-Based Scholarship (twice, 2017 Fall and 2015 Fall)

SKILLS AND INTERESTS

- **Online Course:** C++ Programming for Financial Engineering (joint project by Baruch MFE program, Dr. Daniel Duffy and QuantNet); Algorithms Specialization (offered by Stanford University through Coursera) *11/2017 – 04/2018*
- **English: CET6:** 614/710 **TEM8:** 77/100; **GRE:** 325 (Quantitative 170); **TOEFL:** 102 (Speaking 23)
- **Computer Science:** C/C++, Java, MATLAB, Python, STATA, SPSS, R, Excel VBA, SQL Server, etc.
- **Professional Skills:** Proficient in WIND, RESSET and CSMAR database, SAP software (ERP&AIC)
- **Qualifications:** ACCA; Securities Qualification Certificate; Two Grade Certificate of National Computer Rank Exam

WORK EXPERIENCES

COFCO Futures **Beijing, China**
Intern, Financial Engineering Department *07/2017 - 11/2017*

- Assisted in OTC options quotation, hedge testing, options trading, writing product descriptions and research reports
- Compiled index ETF based on research of the futures indexes; constructed and maintained the index database
- Participated in the project supported by China Futures Association, COFCO Futures and UIBE; applied LSM, CRR and finite difference methods to price exotic options based on MATLAB and VBA programming

RESEARCH EXPERIENCES

Measurement of Leverage Effect on Options Pricing in China *12/2017 – 06/2018*

- Used EGARCH and Stochastic Volatility (SV) Model to capture the leverage effect, and used MCMC method to estimate the parameters of SV Model; stripped early exercise premium of American options
- Reached preliminary conclusion that the accuracy of EGARCH model in volatility modeling is higher than GARCH model in terms of both implied volatility and price

Sovereign Credit Risks Analysis & CDS Pricing *Research Assistant* *11/2017 – 06/2018*

- Studied the systemic and idiosyncratic factors in sovereign credit risk of U.S. and Eurozone sovereigns, derived explicit formulas for the two legs of sovereign CDS; conducted empirical research to simulate the realization of both factors
- Adjusted Conditional Survival Model, which can generate clustering of defaults and is unique in providing calibration to CDO tranches and single name CDS spreads, to price CDS

OTC Options Pricing *Research Assistant* *07/2017 - 11/2017*

- Applied CRR and LSM methods to price exotic options, such as American-Asian and barrier options, based on MATLAB and VBA programming; improved numerical algorithms by increasing efficiency and stability
- Measured transaction costs in options trading process; conducted dynamic risk hedging on the options position by using different methods and financial products, measured the profit or loss of the hedge portfolio
- Monitored the extreme risk of OTC options transactions by estimating the potential losses caused by jump of underlying futures prices, and calculating the VaR after the options were sold based on historical simulation method

"QuantFactory" Quantitative Investment Club **Beijing, China**
Research Department *09/2017 – 06/2018*

- Participated in seminars on the multifactor stock selection, processed factor data based on MATLAB programming
- Entered the training camp organized by QuantFactory and JoinQuant, employed AdaBoost algorithm for stock-selection and MACD for market-timing, achieved 30% annual yield with less than 10% max drawdown in past three years
- Applied Python and MATLAB to reproduce the research reports of securities companies; shared the research results as well as machine learning algorithms including Random Forest, SVM, etc. at the club's regular meetings

Statistical Arbitrage and Multi factor Stock Selection based on High Frequency Data Group *04/2017 – 06/2018*

- Developed co-integration arbitrage strategy based on the soybean futures and other relevant commodities futures in the supply chain of soybean, conducted back test based on MATLAB programming
- Explored the effectiveness of VWAP and TWAP place-an-order strategies on different types of stocks in HS300

Research on University Communities based on Game Theory **Beijing, China**
Outstanding Research Project of UIBE *10/2015 - 10/2016*

COMMUNITY ACTIVITIES

Self-Education Association *Leader of Management Group* *09/2015 - 09/2016*

- Held English Learning lectures with over 2, 000 audiences, be in charge of the selection of comperes, human resource and time arrangements; operated Wechat Subscription, managed funds, calculated and paid wages for all members

Caring Community (Top 3 association at UIBE) *Vice President, Department of Caring for Animals* *09/2015 - 09/2016*

- Interviewed and recruited dozens of volunteers; managed team funds and held team's regular meetings
- Held two large-scale donation activities with charities of other schools, attracting more than 1, 000 students

Binqi (Alice) Hu

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EDUCATION BACKGROUND

Columbia University, Graduate School of Arts and Sciences New York, NY
Master of Arts in the Mathematics of Finance Sep.2018 – Expected Dec.2019

Peking University (PKU) Beijing, China
Bachelor of Laws & Bachelor of Economics Sep. 2014 – Jul. 2018

- Major in International Political Economy (GPA: 3.76/4.00)/Double Major in Economics (GPA: 3.77/4.00)/ Ranking 5/132
- Math Courses: *Calculus* (A)/*Linear Algebra* (A)/*Probability and Statistics* (A)/*Numerical Solution of Differential Equation* (A)
- Honors: Leo KoGuan Scholarship of PKU (Top 4%); Lee Wai Wing Scholarship of PKU (Top 5%); Merit Student of PKU

University of California, Davis Davis, CA
Exchange Student in Economics Sep. 2016 – Dec. 2016

- Overall GPA: 4.00/4.00; Dean's Honor List for the College of Letters and Science

Coursera Courses: *Stochastic Processes*, *C++ Program Design*, and *Financial Engineering and Risk Management*

PROFESSIONAL WORKING EXPERIENCE

China Securities Co., Ltd. Shanghai, China
Investment Assistant at Financial Engineering Group Jul. 2017 – Oct. 2017

- Drafted a 26-page report on big data, machine learning, deep learning and their applications in stock selection and market timing; gave a presentation on those technologies and recommended a research on the sentiment indicator in the Chinese stock market.
- Developed in MATLAB an arbitrage strategy for continuously suspended stocks heavily held (more than 20% of their total free-float market capitalization) by structured funds using index valuation method.
- Conducted principal component analysis in MATLAB to establish an investor sentiment indicator of the Chinese stock market and used the indicator to short-term market timing.
- Implemented fund data cleaning in MATLAB and Excel, made a comprehensive review of the second quarter reports on public funds with respect to the asset scales, yields, stock positions, types, the performances of their heavily-held and underweight stocks and summed up the overall market trend.

China Securities Co., Ltd. Beijing, China
Investment Analyst at Investment Banking Division Jul. 2016 – Aug. 2016

- Conducted due diligence on a video surveillance provider, consulting and negotiating with its executives and different departments; brought forward a solution for the problems with its revenue division and product categories which had been approved by the executives of the company.
- Drafted the legal parts of Public Transfer Statement and prepared PowerPoint slides for a National Equities Exchange and Quotations boarding project for the project approval conference.
- Performed an industrial analysis of the B2B electronic commerce market, analyzed the investment values of a B2B e-commerce platform in terms of comprehensive competitiveness, the financial situation and developing prospect and drafted a relevant report.
- Developed a VBA program to simplify the tabulation process by transforming all tables of a given document into a default format; the program was adopted by the entire team.
- Directed a research on the taxation issues of a company's restructuring; assessed its stake purchase and asset acquisition plan.

ACADEMIC PROJECTS

Undergraduate Graduation Thesis *Power Measurement in the United Nations Security Council* May. 2018

- Constructed mathematical models for the ternary Banzhaf and Coleman power index and developed an algorithm in Python to compute the power indices.
- Applied the ternary indices and the algorithm to analyze the voting power of members in the United Nations Security Council.

iFLYTEK Financial Detailed Report Nov. 2017

- Accomplished the fundamental analysis of iFLYTEK Co., Ltd., evaluated its profitability and liquidity using financial ratios and its comprehensive competitiveness compared with comparable companies.
- Used PE/PB method for valuation and geometric Brownian motion for stock price simulation.

LEADERSHIP EXPERIENCE & OTHER ACTIVITIES

Forum for American/Chinese Exchange at Stanford (PKU Chapter), ***Co-President*** Nov. 2014 – Jul. 2017

- Finance Manager for the annual conference at PKU: Conducted market research, managed budget, developed partner relationships.
- Human Resources Manager at PKU: Directed membership recruitment, maintained membership database, and interviewed alumni.

China Finance 40 Forum & Road King Scholarship, ***Trainee in Internet Finance*** Oct. 2015 – Jul. 2017

- Youngest of the 25 trainees selected from 156 candidates including PhDs, masters and bachelors after a two-round test.
- Attended lectures in Internet Finance and macroeconomics and wrote case analyses on Internet Finance enterprises.

SKILLS

Standard Tests: TOEFL (118, Speaking 28); GRE (332, Quantitative 170, 97%)
Computer Skills: C/C++; MATLAB; Python; STATA; SPSS; Wind Database; Microsoft Office

Qichen (Enzo) Hu

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EDUCATION

Columbia University, Graduate School of Arts and Sciences New York, NY
Master of Arts in Mathematics of Finance Expected Dec. 2019

- **Relevant Coursework (in progress):** Statistical Inference and Time-Series Modelling, Stochastic Processes and Applications, Modeling and Trading Derivatives, Quantitative Methods in Investment Management
- **CFA** Level II Candidate (Passed Level I exam in June 2018)

Zhejiang University Hangzhou, China
Bachelor of Economics in Finance & Bachelor of Arts in English Language & Literature Jul. 2018

- **GPA:** 3.82/4.0
- **Relevant Coursework:** Stochastic Processes, Ordinary Differential Equations, Probability Theory and Mathematical Statistics, C Programming, Statistical Analysis Software, Quantitative and Computational Economics, Financial Engineering, Financial Modeling, Financial Risk Management, Intermediate Econometrics

PROFESSIONAL EXPERIENCE

CITIC Securities Co., LTD Beijing, China
Asset Management Intern Aug. 2017 - Sep. 2017

- Assisted in designing the deal structure of ABS and accounts receivable for Minmetals Development Co., LTD
- Investigated the product structure of accounts receivable in overseas trades to make reasonable transfer price and control the unique risks in accounts receivable, such as overdue and breach of contract

Morgan Stanley Capital International, MSCI Inc. Beijing, China
Investment Analyst Intern Jan. 2017 - Mar. 2017

- Priced financial derivatives, like exotic options and convertible bonds, using MATLAB based on binomial method
- Measured VAR for a portfolio of options through both linear approximation and Monte Carlo simulation in MATLAB
- Worked out the price paths of options and currencies using stochastic partial differential equations
- Evaluated the performance of several shrinkage methods in forecasting covariance matrix within a mean-variance portfolio optimization framework
- Backtest the return of a long-short strategy and evaluated liquidity risks in hedge funds by working out the autocorrelation of bid-ask spreads

Everbright Securities Company Limited Nanjing, China
Investment Consulting Intern Jul. 2016 - Aug. 2016

- Assisted in securities margin trading, including calculating minimum margin and monitoring margin account
- Backtest the rate of return of new financial products based on historical data

PROJECT EXPERIENCE

Quantitative Investment Based on Data Mining Beijing, China
Research Project at Institute of Computing Technology, Chinese Academy of Sciences Jul. 2017 - Aug. 2017

- Led a team to develop new market timing strategies based on machine learning algorithms like Logistic Regression, Support Vector Machine and Random Forest in Python
- Built features, designed investment strategies, optimized models on validation sets and achieved a winning percentage of 58%, an annual rate of return over 60% and a maximum drawdown below 20% using data from 2009 to 2015

Solving Optimal Growth Model by Multiple Numerical Methods Hangzhou, China
Final Project of Quantitative and Computational Economics Jun. 2017 - Jul. 2017

- Solved an extension of the basic growth model with an elastic labor margin and compared the computational time and equation errors by multiple numerical methods including Taylor Approximation, Chebyshev Projection, Piecewise Cubic Hermite Interpolating Polynomial Projection (Pchip)
- Calculated steady state and solved Bellman equation through applying discrete dynamic programming and quadratic approximation in MATLAB

Analysis of Factors Affecting Hedging Greeks Hangzhou, China
Final Project of Financial Engineering May. 2017 - Jun. 2017

- Simulated hedging Greeks and analyzed the influences of trading fees, frequency of rebalancing and stock price paths on Delta neutral hedging and Delta-Gamma neutral hedging strategies by Monte Carlo simulations in MATLAB
- Adopted Merton Jump Diffusion model in simulating price paths of underlying asset

SKILLS & INTERESTS

Programming Skills: Python, C++, C, MATLAB, R, SAS, EViews

Interests: Travelling, Photography, Soccer, Bodybuilding

Shicheng (Alex) Hu

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EDUCATION

Columbia University, New York, NY — Sept 2018 - Dec 2019
M.A. in Mathematics of Finance (MAFN)
- Anticipated Courses: Intro to the Math of Finance, Capital Markets & Investments, Statistical Inference / Time-Series Modeling, Stochastic Processes – Applications

Cornell University, Ithaca, NY — Aug 2016 - May 2018
B.S. in Food Science, Summa Cum Laude, Minor in Business
- Relevant Courses: Python, Managerial Finance, Financial Accounting, Microeconomics, Object-Oriented Programming and Data Structures, Data Mining and Machine Learning

Zhejiang University, Hangzhou, China — Sept 2014 - Jul 2016
B.E. in Food Science and Engineering
- Relevant Courses: Calculus I/II, Linear Algebra, Ordinary Differential Equations, Probability and Mathematical Statistics, Java Programming

AWARDS

- Cornell University CALS Dean's List for three semesters (Fall 2016, Spring 2017, Fall 2017)
- CALS Academic Excellence Award in the Food Science Major (Top 1 GPA in Food Science)
- CALS Degree Marshal (Top 2 GPA in CALS)

EXPERIENCE

Cornell University, Ithaca, NY — Jan 2018 - May 2018
Teaching Assistant for AEM 2241 Finance
- Held office hours, proctored exams, and assisted with administrative work
- Attended finance boot camps for TAs

China CITIC Bank, Guangzhou, China — Jun 2017 - Jul 2017
Summer Analyst, Investment Banking Division
- Participated in bond underwriting and wrote the prospectus
- Conducted due diligence and preliminary financial analysis of the target firm
- Conducted research on two typical real estate M&A fund cases and prepared PowerPoints
- Researched policy changes/industry news and shared findings at group meetings

China Construction Bank, Nanchang, China — Dec 2016 - Jan 2017
Winter Analyst, International Department
- Conducted data processing in Excel and automated yearly report generation for international business of the department and other branches
- Assisted senior manager in letter of guarantee and FX spot/forward transactions

RESEARCH / PROJECTS

Cornell University

R project: — Nov 2017 - Dec 2017
- Fitted and selected statistical models based on the given dataset

Java projects: — Oct 2017 - Nov 2017
- Finished parts of a paint program
- Implemented a min-heap and Dijkstra's shortest path algorithm. Applied these algorithms and data structures in a program that mimics the rescue of a spaceship

Business project: — May 2017
- Investigated Tiffany & Co. using basic business tools, concepts, and methods
- Traced historical stock data of the target firm and performed stock price analysis
- Wrote business reports including ratio analysis, marketing analysis, and strategic analysis

SKILLS

- Computer: Python, Java, R, Microsoft Office Suite

Yu Hu

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EDUCATION

Columbia University **New York, NY**
M.A. in Mathematics of Finance GRE: 332 (quant:170) 2018 – May 2019
- Related Courses: Hedge Fund Strategies, Risk Management, Statistical Inference/ Time-Series Modeling, Stochastic Processes

The Ohio State University **Columbus, OH**
B.S. in Mathematics GPA: 3.95/4 2014 - 2018
B.S. in Finance
- Honors: Dean's list (8 semesters), *summa cum laude*

EXPERIENCE

CITIC Trust Co., Ltd. **Beijing, China**
Business Department Intern May 2017 – Jul. 2017
- Involved in a project of 2.1 billion RMB trust loan: wrote due diligence report, wrote and edited all the relating contracts, communicated with pertinent departments to sign and seal the contracts, etc.
- Participated in the company's first circular buying activity of an ABN project: sorted out documents, made the Gantt chart of the project progress, monitored the contact and coordination with related enterprises.
- Collected and analyzed the data of all the company's trust loan projects in recent years using Excel, reported to senior trust manager.

Beijing Rosense Technology Co., Ltd. **Beijing, China**
Financial Analyst Intern Jun. 2015 – Aug. 2015
- Reviewed and improved the statistical model of a financial APP called GUSHIHUI.
- Collected and analyzed the spot price, close price and trading volume of stocks in the company's investment portfolio and calculated the implied volatility.
- Concisely summarized the latest stock quotes, wrote *Investment Daily* and sent it to all the managers and employees.

JINTAIHAOGE Culture Development Co., Ltd. **Beijing, China**
Marketing Assistant May 2014 – Aug. 2014
- Managed Sina Weibo interactive activities.
- Led a team to design the Sina Parent – Child Website cooperative project proposal: estimated the budget, designed the timeline and logic model.
- Designed the posters of the company's bilingual project.

RESEARCH EXPERIENCE

- **International Investment Optimization Project** Aug. 2017 – Dec. 2017
  Calculated Sharpe ratio, volatility, correlation of different asset classes, created a mean-variance framework, used quadratic programming to solve the mix and found an efficient portfolio by constructing an efficient frontier.
- **Valuation Analysis of Johnson & Johnson** Jan. 2017 – Apr. 2017
  Developed a pro-forma income statement for the firm, calculated the cost of capital, created discounted cash flow analysis, developed a capital budget and made recommendations based on the analysis.

ADDITIONAL INFORMATION

Computer Skills: **Java, MATLAB, Excel**
Data Analytics Skill: **Passed (SOA) Exam P – Probability**
Passed (SOA) Exam FM – Financial Mathematics
Language Competence: **Chinese(native), English(fluent), French(beginner)**

Zhixiang Hu

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Email: <zhxiang.hu.cu@gmail.com> | **LinkedIn:** www.linkedin.com/in/zhixianghu | **Skype:** live:hermitaaronwoods

EDUCATION

Columbia University **NYC, U.S.A**

Master of Science in Mathematics of Finance Aug.2018 -

- **Upcoming coursework:** Fixed Income Portfolio Management, Programming for Quantitative and Computational Finance (C++), Stochastic Processes, Time-Series Modelling, Numerical Methods in Finance, Stochastic Methods in Finance, Hedge Funds Strategies and Risk etc.

Renmin University of China **Beijing, China**

Bachelor of Economics in Financial Engineering, Bachelor of Management in Marketing Sep.2014 - June 2018

- **GPA: 3.78/4.0, 3.62/4.0**
- **Awards:** *Second Prize Scholarship, Excellent Volunteer Scholarship*
- **Coursework:** Applied Stochastic Processes, Numerical Methods in Financial Engineering, Partial Differential Equations, Financial Econometrics, Financial Engineering, Financial Derivatives, Java Programming, Machine Learning, Deep Learning, Statistics etc.

EXPERIENCE

Fixed Income Department, Shenwan Hongyuan Securities **Beijing, China**

Trading Assistant Feb. 2018–Jun. 2018

- Execute repo and bonds trading orders from the investment managers; collect and analyze daily market transaction data of corporate bonds and rate securities; develop automation programs using EXCEL VBA; develop programed trading strategies under the constructions from investment managers.
- Developed an arbitrage strategy in treasury future contracts using the mechanisms of two resistance levels; developed an automation program that automates recording the daily repo and bonds transaction details into spreadsheets; developed a MATLAB program (based on the *NARX* model: *Nonlinear Autoregressive Model with Exogenous Input*) that simulates and tracks the dynamics of three popular repo rates (1D, 7D and 14D) in the market using the *NARX* model.

Department of Risk Management, Yinhua Fund Management **Beijing, China**

Data Analyst Intern Aug.2017–Oct.2017

- Maintained financial database for the *Money Market Fund(MMF)* products at the company using the SQL language; conducted performance and risk evaluation on the products of the MMF portfolio; assist the team in publishing semi-annual reports of the company;
- Developed a VBA-based program that automated the calculation and simulation of risk indicators for the MMF portfolios. It compressed the working hours of generating the MMF market & risk control report from around 3 hours to about 10 minutes.

National Institute of Financial Research, PBCSF Tsinghua University **Beijing, China**

Research Assistant Oct. 2017 – Jan. 2018

- Assisted Professor Zhuo Chen in collecting research materials and conducting data analysis and charting;
- Developed a MATLAB web crawler that automated accessing and downloading spreadsheets of financial data (e.g.: *standard discount rates*) on the governmental websites; this helped increase our operations efficiency and shrunk the working hours of each data project by around 60%.

PROJECTS

On the effectiveness of *technical analysis* in the Chinese futures market – based on the *Dynamic Time Warping* algorithm **Beijing, China**

Undergraduate Thesis May. 2018 – June. 2018

- The paper conducted an empirical test on the effectiveness of *technical analysis* in the Chinese futures market;
- The paper developed a trading strategy called *SDTW strategy* based on the *Dynamic Time Warping* algorithm. It then utilized the quotes data from 3 stock index futures contracts in the Chinese market and conducted an empirical validation on the profitability of it. More details could be seen via this link: https://pan.baidu.com/s/1OKTrJ6ligd18lS84cIHwKA.

***Meteor crater*: a program that teaches you how to program** **Beijing, China**

Java programming group coursework project June. 2018 – June. 2018

- Based on the ideas from the well-known *CodeCombat* that teaches how to program by playing games, we developed a portable java program that teaches you the basic ideas of programming in java: coding using the *if condition*, *loops*, *object-oriented-programming* etc.
- I was mainly responsible for the design and implement of GUI interface: the login window, the map and stage window, the notifications for success or failure etc. And other tasks that assist the jobs of my teammates, like scaling the uploaded images in the game framework.

SKILLS

- **Programming & Software:** Python, MATLAB, R, Java, VBA, SQL, C/C++ (learning); Stata, SPSS, SAS, Bloomberg, MS Office;
- **Analytical Skills:** Machine Learning, Deep Learning, Econometrics, Time Series Analysis, Numerical Methods in Finances, Data Analysis.

YIKSING HUANG

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EDUCATION

Columbia University **New York, USA**
MA in Mathematics of Finance Sep. 2018 - Expected Dec. 2019

- **Coursework**: Stochastic Processes and their Applications; Programming for Quant and Computational Finance; Statistical Inference/Time-Series Modelling; Mathematics of Finance

The Chinese University of Hong Kong **Hong Kong, China**
BS in Quantitative Finance (Second major in Mathematics) Aug. 2013 - Jul. 2018

- **Coursework**: Fixed Income Security; Computational Finance; Derivatives Trading Strategies; Mathematical Modeling; Ordinary differential equation; Kinetic Theory of Rarefied Gases
- **Teaching Assistant**: Mathematics of Data and Network (Summer 2018)

The University of North Carolina at Chapel Hill **North Carolina, USA**
Exchange Program Jan. 2017 – May. 2017

- **Core Modules**: Mathematical Analysis; Elementary Algebra; Complex Variables

PROFESSIONAL EXPERIENCE

Yue Tung Global Asset Management Ltd. **Hong Kong, China**
Equity Research Assistant Jul. 2017 – Aug. 2017

- Assisted in starting an equity hedge fund for the company; ranging from equity research to compliance
- Co-authored a weekly report for clients about important news, company analysis, and fund recommendations
- Carried out a stock analysis in both qualitative (Color Analysis – detailed description of the firm, industry, products, and events) and quantitative ways (DCF valuation, etc.)

Bank of China **Shenzhen, China**
Summer Intern Jun. 2014 – Aug. 2014

- Rotated through four different departments: Accounting, Operations management, Corporate Finance, and Sales
- Researched and analyzed the recent financial news every morning; and prepared a report for Corporate Finance department
- Assisted in issuing Bank’s Acceptance Bills in Corporate Finance Department

Project Experience

Modeling through Monte Carlo method Jul. 2018 – Aug. 2018

- Developed algorithms for option pricing and option trading strategies using Monte Carlo method in MATLAB
- Implemented advanced process for market prices, Lévy processes including the Poisson Process, the Inverse Gaussian Process, and Jump-Diffusion Process on asset pricing.

ADDITIONAL INFORMATION

- Computer Skills C++, R, MATLAB, LaTeX. Bloomberg
- Languages Cantonese (Native), English and Mandarin (Fluent)

Yuwei "Iris" Huang

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EDUCATION

Columbia University, Department of Mathematics New York, NY
Master of Arts in Mathematics of Finance *Sep. 2018 – Dec. 2019 (Expected)*
- *Core Courses*: Statistical Inference/Time-Series Modeling, Stochastic Processes, Hedge Fund Strategies and Risk

East China Normal University (ECNU) Shanghai, CN
Bachelor of Science in Statistics (GPA: 3.78/4.00, Rank 4/52) *Sep. 2014 – Jul. 2018*
- *Relevant Courses*: Bayesian Analysis, Regression Model, Multivariate Analysis, Statistical Quality Control
- *Technical Projects*: Predicting Air Quality with *ARFIMA*/*ARMA-ARCH* model, *Non-parametric EWMA* Chart for Process Monitoring with Type I Right-censored Data, *Bayesian* Estimation of Temperature with *Markov Chain Monte Carlo* Model
- *Awards*: 2016 and 2017 Outstanding Student (top 2.5%); 2015 and 2016 First-class Integrated Scholarship (top 5%)
- *Study Abroad*: University of Cambridge, Magdalene College, United Kingdom, Summer 2017

PROFESSIONAL EXPERIENCE

***Data Analyst Intern* | Shanghai eBay Network Information Services** *Nov. 2017 – May 2018*
- Performed data analysis on over **$1B** total sales, using **R** and **SQL**, for eBay Greater China region and contributed to the 10-15% increase in Gross Merchandise Volume (GMV) during Q1 2018
- Evaluated the success of promotions on sales by calculating KPIs (e.g., incremental sales volume, adoption rate, projected payout etc.) and automated 60+ ad hoc business reports using **SAS**, **MS Excel**, and **Python**
- Calculated incentive payouts to **1MM** sellers per classification on appropriate products and brands for promotions, collaborating with the Promotion Design team, based on sellers' sales volume, price, and brands information
- Developed strong analytical skills and work ethics through delivering accurate and timely results to urgent business requests

***Risk Analysis Intern* | Morgan Stanley Capital International** (MSCI) *Jul. 2017 – Aug. 2017*
- Researched Chinese A-share listed companies that joined the MSCI emerging market index and performed risk analysis
- Interpreted simulation results of *VaR* and proprietary risk models; conducted *backtesting* to ensure model accuracy
- Mapped 30 public companies to MSCI industry classification standards by examining over 10,000 classification codes
- Built a database containing background information for top executives to support initial data input of risk control products
- Gained experience analyzing financial statements and working against pressing deadlines in a fast-paced environment

***Compliance Intern* | Haitong Innovation and Capital Investment Co. ltd** (a Private Equity Firm) *Sep. 2016 – Dec. 2016*
- Compiled and updated five years of pre-investment and post-investment profiles on various projects for the Private Equity (PE) firm and investigated risks of information security and financial disclosure by analyzing financial and legal documents
- Assisted the evaluation of fund manager performance by tracking historical annualized returns and expectations
- Identified areas of potential growth and risks for the firm by conducting Chinese PE industry research, covering 200+ firms
- Gained knowledge of PE decision-making processes and concepts (e.g., fund performance, exit strategy, partnership etc.)

RESEARCH EXPERIENCE

***Team Leader* | National College Student Innovation Fund Program** *Aug. 2015 – Apr. 2017*
- Conducted multiple government-sponsored research projects on social topics using **R** and **SPSS**
- Developed *Principal Component Analysis* (PCA) models to conduct in-depth analysis of the employment data of 1,000 college graduates for five consecutive years, over 6,000 records and completed an employment status report
- Examined the effect of IPO activities on Innovation with *statistical inference* using *difference-in-difference* model
- Publication: Li Y, Huang Y, Ma S. *Does going public affect corporate innovation? Evidence from China's manufacturing firms in the GEM* on South China Journal of Economics (source: Chinese Social Sciences Citation Index), 2018, Vol 7:59-74 (Acceptance rate: 5%)

TECHNICAL SKILLS

Programming Languages: Prior experience with Python, C++, and SQL
Software Packages: Proficient in MS Excel, MATLAB, and SAS; working knowledge of R

Mobasher Khan **September 3, 2018**

Contact Information

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Phone: ***7184338487***

Project Portfolio: http://mobykhan.com

https://www.linkedin.com/in/mobasherkhan

Education

Columbia University, New York, New York *September 2018 - May 2019*

- *Degree: Master of Arts* in Mathematics of Finance
- *GRE: Quant:* 168/170, *Verbal:* 166/170, *AW:* 5/6

Princeton University, Princeton, New Jersey *September 2013 - June 2018*

- *Degree: Bachelor of Science in Engineering* in Mechanical & Aerospace Engineering

Work & Research Experience

Machine Learning & Energy Storage Research, Princeton, NJ *August 2017 - June 2018*

- Created a Python datatype to evaluate the performance of 15 regressors and 7 time series data preprocessing techniques in predicting battery state of charge, capacity, & rate retention.
- Modified the *Bokeh* visualization library with Python to create interactive ***Capacity vs Cycle*** graphs and differential capacity curves to display different capacity degradation regimes.
- ***Applications of Data Science to Electrochemistry***: http://mobykhan.com/th.pdf

Propulsion Engineering Intern, Williams International, MI *May 2016 - August 2016*

- Utilized and amended CFD codes in FORTRAN for running aerodynamic simulations & wrote scripts in Python and Unix Shells to assess convergence, compare test data with simulation results, intelligently update CFD parameters and rerun simulations until within tolerances.

Manufacturing Engineering Intern, AAI Corp., Hunt Valley, MD *May 2015 - July 2015*

- Created manufacturing process documents for teardown & retrofitting of RQ-7 Shadow UAVs.
- Converted Manufacturing & Repair warehouse into a full UAV repair system in AutoCAD & Siemens NX, accounting for hardware, workflows, FOD areas, and repair processes.

Independent Mathematics Research, University of Michigan *September 2011 - July 2013*

- Wrote an algorithm in MATLAB & Maple, using group theory and transitivity, that processed all possible permutations and output an optimized solution for the Mathieu Group.

Extracurricular Engineering Projects

SpaceX Hyperloop Pod Competition, Team rLoop *May 2015 - May 2017*

- Using PTC Creo, ANSYS Fluent & OpenFOAM to run simulations on finalized rPod models for aerodynamic optimization and assess structural limitations of chosen design and materials.

Formula SAE, Princeton Racing Electric, Princeton, NJ *September 2014 - September 2016*

- Created hex files in C++ and assembly language to program the ATmega168 microcontroller.
- Used PTC Creo to design the motor controller housing and fabricated parts using CNC.

Amateur Rocketry, National Association of Rocketry, Queens, NY *January 2012 - Present*

- Created simplified drag & thrust models in Python and ANSYS to provide initial data for designing airframes; wrote scripts to optimize nozzle and grain design choices.

Skills & Languages

Technical: Python, Unix Shell, Microsoft Excel, Aerodynamics
Languages: English, Portuguese, Arabic, Bengali, Spanish

Daniel Lee

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dhl2136@columbia.edu

Permanent Address:
3A Hillcrest Ave.
Fort Lee, NJ, 07024

Education

Columbia University in the City of New York September 2018-Present
Masters in Mathematics in Finance
Rensselaer Polytechnic Institute (RPI) Dec 2017
Bachelors in Mathematics, Computer Science (Dual Major) Troy, NY
Cumulative GPA: 3.67 May 2017

Work and Research Experience

Undergraduate Research Assistant, RPI May-Jul 2015
Data Analytics Summer Research Program

- Utilized MATLAB in order to analyze data from various sources.
- Mainly focused on Principal Component Analysis (PCA) as a means to isolate potentially correlated values.
- One of the main objectives was to predict and fill in data sets that were originally not available or unknown.
- Presented several findings from analysis to sponsors.

Data Interdisciplinary Challenges Intelligent Technology Exploration Laboratory (Data INCITE Lab) Jul-Aug 2017

- Created R programs to analyze data for anomaly detection in silicon wafer manufacturing
- Used data from 14nm wafers presented by GLOBALFOUNDRIES

Rensselaer Center for Open Source (RCOS), RPI Aug 2016-Dec 2017
Member

- Worked with pyLemma, a Python-based formal logic support system.
- pyLemma is intended to be an alternative to Fitch, a proof deduction program that is bundled in the Language, Proof and Logic package.
- Developed an interactive front-end interface for pyLemma using Tkinter.

Computer Skills

- Proficient in Java, C, C++, Python
- Significant experience with MATLAB and LaTeX
- Experience with TkInter, HTML, CSS, JavaScript, R
- Experience with SQL, Oracle
- Microsoft Office (Word, Excel, PowerPoint), Adobe Photoshop

Activities and Honors

Datathon, RPI Apr 2015

- Contest held by Rensselaer Institute for Data Exploration and Applications (IDEA).
- Analyzed a Yelp dataset consisting of information from various local businesses in a way that would benefit college students.
- Competition lasted around 6-7 hours. Time was spent brainstorming then implementing the project.
- Won 4th place with an undergraduate team.

Putnam Competition, RPI Dec 2014

- Annual mathematics competition held for undergraduate students.
- Consists of two three-hour long tests containing twelve problems in total.
- RPI ranked 3rd place in the 2014 competition.

Ho Joon Lee

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EDUCATION

Columbia University, New York, NY, USA Expected, Dec 2019
Graduate School of Arts & Sciences
M.A. in Mathematics of Finance

- Relevant Coursework: Introduction to Mathematics of Finance / Statistical Inference & Time-Series Modeling / Stochastic Processes – Applications / Quantitative Methods in Investment Management / Stochastic Methods in Finance / Numerical Methods in Finance / Econometrics I, II / Hedge Fund Strategies and Risk / Programming for Quantitative & Computational Finance

Korea University, Seoul, South Korea Aug 2018
Business School
B.A. in Business Administration

- Second Major in Financial Engineering GPA 3.7/4.0
- Relevant Coursework:

(Mathematics)	Calculus I, II / Linear Algebra I, II / Analysis I, II / Differential Equations & Computer Experiment I
(Statistics)	Introduction to Probability Theory / Mathematical Statistics / Regression Analysis / Multivariate Statistical Analysis
(Programming)	Elementary Computational Statistics (R, SAS) / Computer Language and Practice (C)
(Economics)	Microeconomics / Macroeconomics / Econometrics I

ACTIVITIES AND ACHIEVEMENTS

Investment and Finance Research Association(IFRA) at Korea University Mar 2018 – Jun 2018
Acting member; 21st Generation

- Actively participated in morning and weekly sessions which includes activities such as valuation of companies, research on financial products, and applying theories to understand macroeconomic drivers
- Kept track of financial industry issues by reading news articles and discussing issues with fellow members
- Attended non-regular sessions by invited senior members of IFRA working in finance related jobs

Korea University Business School Scholars(KUBScholars) Club at Korea University Sep 2017 – Aug 2018
Vice President

- Coordinated seminars with the club's advisory professor by inviting professors and senior members who are currently pursuing to be a professor
- Obtained advice regarding the career path in academia and familiarized with the overview of research trends in academia

Top of Clubs(TC) Tennis Club Mar 2016 – Feb 2018
Acting member; 42nd Generation

- Enthusiastically started to learn how to play tennis through taking part in weekly tennis court gatherings
- Became a finalist in Men's Doubles of the yearly club tournament named TC Open Tournament held in August 2017

Military Service in the Republic of Korea Army, Seoul, South Korea May 2014 – Feb 2016
Sergeant Military Interpreter; Defense Intelligence Command

- Conducted interpretation of written materials from English to Korean and provided information that served to be the basis of the Command's decision-making process
- Persevered irregular working hours and night shifts demanded for extensive workloads of interpretations

TEST SCORES

GRE – Verbal 164, Quantitative 169, Writing 4.0

TECHNICAL SKILLS AND LANGUAGES

Computer Language: Python, R, SAS, C
Language: English(Fluent), Korean(Native)

Siyuan Li

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EDUCATION

Columbia University — **New York, United States**
Master of Financial Mathematics — 9/2018-12/2019(expected)

Vanderbilt University — **Nashville, Tennessee, United States**
Bachelor of Arts; Majoring in Economics and Mathematics — 8/2014-5/2018

- **GPA:** 3.73 / 4.0;
- **Honors/Awards:** 2015.1 - 2018.5 Dean's List (7 out of 8 semesters)
  2016.1 - now Member of NSCS (honor society)
  2018.5 – now Member of Phi Beta Kappa (honor society)
- **Major Coursework:** Linear Algebra(A), Actuarial Model(A-), Stochastic Process(A-); Macro/Micro Economics(A), International Finance(A-), Development Economics(A-), Econometrics(A), Growth Theories(A), Social Choice Theory(A); Financial Accounting(A), Managerial Accounting(A), Corporate Finance(A), Investment Analysis(A-), Financial Management (A-)

INTERNSHIP EXPERIENCE

Hao Capital — **Shanghai, China**
Investment Assistant — 6/2018-8/2018

- Investigated the current and prospective situations of Chinese real estate industry, especially in Shanghai
- Prepared pro forma financial statements and engaged in road shows for various business building renovation projects with total amount of transaction over $500 million

Morgan Stanley — **Shanghai, China**
Remote Internship — 6/2017-8/2017

- Read a substantial amount of report including ‘Monetary of the ECB 2002-2015’, ‘Banks’ Valuation’, ‘ETF primer’, ‘Asia credit market analysis’ etc.
- Grasped fundamental understandings of foreign exchange and futures’ market, wrote a report concerning influences of US economic indicators over gold price from 2007-2017

Vanderbilt University — **Nashville, Tennessee, United States**
Teaching Assistant, Mathematics & Economics Department — 8/2015-5/2018

- Graded all submitted assignments and tests for Calculus Survey and Intermediate Macroeconomics class following instructor’s guidelines, provided feedbacks regarding students’ performance
- Offered one to one teaching for students with special needs, designed appropriate and detailed study plans
- Raised more than 10 points in students’ grades, satisfaction with courses increased one letter grade

EXTRACURRICULAR ACTIVITIES

Vanderbilt Investment Club — **Nashville, Tennessee, United States**
Junior Analyst — 8/2015-5/2018

- Prepared investigation of company’s investor presentation using financial valuation, risk factors, and market overview
- Participated in equity research and voted to create and manage existing positions in a portfolio
- Learned valuation techniques including discounted cash flow, comparable transactions, and comparable company analysis

Vanderbilt University Chinese Students and Scholars Association — **Nashville, Tennessee, United States**
Regular Member — 1/2015–5/2018

- Helped organize New Year and Mid-Autumn Festival Galas to spread Chinese culture
- Designed musical programs for quarterly Chinese related promotional activities and events

SKILLS & INTERESTS

Languages: TOEFL 106 / 120; GRE 330 / 340; GMAT 720/800; 4 years’ overseas study and living experience
Technical Skills: CFA Level I, MS Office/Excel, Java, C++, Python, Matlab, SQL
Interests: Piano (level 9), Erhu (level 10), Hiking, Soccer

Sophia (Songyang) Li

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EXPERIENCE

Deloitte – Risk Advisory Beijing & Shenzhen, China
Quantitative Analyst Intern May – Aug 2018

- Developed an internal credit risk rating system for banking clients through data mining algorithms using SAS
  - Designed a credit and risk scoring system utilizing logistic regression for underwriting borrower creditworthiness
  - Estimated Credit Risks(Probability of Default, Loss Given Default, Exposure at Default) utilizing decision tree
- Conducted big data analysis of various loan products including overdue ratio, roll-rate, loan vintage, etc.
- Constructed panel data using SAS and VBA to evaluate credit history of borrowers after data cleansing
- Designed binning methodology by evaluating weight of evidence, information value, and Gini coefficient
- Managed and tracked project progress and presented weekly summary on risk committee meetings

Yinlang Information Technology Co., Ltd. Shanghai, China
Product Marketing Intern Feb – Apr 2017

- Created a database to track vendor performances in function design and user interfaces of various software
- Designed a framework to quantify the company's product features to determine optimal advertising channels
- Maintained and updated the database of the TPO software and assisted with its user interface improvements

The Survey and Research Center for China Household Finance Chengdu, China
Researcher Jun – Jul 2016

- Collected, compiled and analyzed data on Chinese housing benefits for 20 major cities
- Led a team of four to translate housing benefit acts and prepared presentations of analytical insights

Texas A&M University College Station, TX
Research Assistant in the Economics Department Jan – Dec 2015

- Developed regression models to test hypotheses and examined relationships between economic inputs
- Assisted economics professors to collect, clean and analyze data using Stata for research projects

EDUCATION

Columbia University New York, NY
M.A. in Mathematics of Finance Sept 2017 – Dec 2018
Selected Coursework: Capital Markets and Investments, Programming for Quant & Comp Finance, Time-Series Modeling, Stochastic and Numerical Methods in Finance, Multi-Asset Portfolio Management

Selected Projects

Pair-Trading Strategy for Stocks across Different Industries

- Designed the trading algorithm based on the convergence and divergence of pricing patterns using R
- Identified the position risks and created programs to minimize the exposure by calculating half-life of price spread
- Selected pairs based on correlation analysis and evaluated co-integration and spread
- Wrote software using Python to collect daily trading pricing data for 80 stocks from 8 industries
- Led a group of 4 from collecting and analyzing data to designing algorithms and presenting outcomes

Volatility Smile Deterministic Interpolation and Yield Curve Stochastic Interpolation

- Designed VBA code to interpolate the European call option volatility in delta space using Neville's algorithm and cubic spline interpolation
- Fitted the Vasicek model to the historical LIBOR data based on regression and predicted the terminal state
- Created a vector of interpolation points that allowed both forward and backward movements in time
- Performed interpolation through Brownian Bridge construction to refine the filtration of the time series

Texas A&M University College Station, TX
B.A. in Economics with a minor in Mathematics, **GPA: 4.00/4.00** Sept 2013 **-** Dec 2016

- **Honors**: *summa cum laude*; Opportunity Award Scholarship; Phi Kappa Phi National Honor Society
- Graduated one semester early after satisfactorily meeting all academic requirements

SKILLS

- **Professional:** Passed CFA Level I, candidate for CFA Level II
- **Technical Skills:** Python, R, SAS, VBA, MATLAB, SPSS, Stata, Bloomberg, Excel, PowerPoint, Word
- **Languages:** Chinese (native), English (fluent), French (basic)
- **Hobbies:** Piano, Painting, Creative Writing (campus literary magazine editor for 2 years), Traveling, Cooking

Dongwei Liang

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29-22 Northern Blvd, Apt. 2903, Long Island City, NY 11101

EDUCATION

Columbia University **New York, NY**
MA in Mathematics with a Specialization in the Mathematics of Finance Dec 2019

- **Coursework:** Time Series Analysis, Computation for Finance, Fixed Income Portfolio Management

Washington University in St Louis **St Louis, MO**
BA in Mathematics May 2018

- **Graduated with Distinction in Mathematics and Minor in General Economics**
- **GPA:** 3.8 / 4.0; **SAT**: 2310 (Critical Reading: 780 | Math: 800 | Writing 730), **GRE**: 335 (Verbal: 165 | Quantitative: 170)
- **Coursework:** Lebesgue Integration, Probability, Frequentist and Bayesian Statistics, Stochastic Process, Linear Statistics Model, Investment and Portfolio Management, Advanced Derivative Securities, Advanced Corporate Finance (Valuation, Financing, M&A, LBO), Data Structure and Algorithm, Object-Oriented Programming Laboratory (C++ & Java)
- **Relevant Project:** Mock trading and portfolio management, DCF and Comparable Firm valuation of Noble Energy, M&A model of AT&T and Time Warner's, LBO analysis and model of Gap Inc., and case projects covering working capital management, capital budgeting, real option, and numerical simulation of exotic, path dependent options
- **Certificate:** *Chartered Financial Analyst (CFA) Level 2 Candidate*

EXPERIENCE

HGlobal A.I. Corporation **Shanghai, China**
Quantitative Analyst Sep 2018 – Dec 2018

- Shall participate in quantitative investment researches using big data and artificial intelligence to generate investment insights

Haitong Kaiyuan Investment Group **Shanghai, China**
Private Equity Summer Analyst Jun 2017 – Aug 2017

- Participated in the full investment analysis process of Xiongcheng Company and conducted due diligence by preparing research reports of Chinese offshore pile driving and offshore wind power industries, attending site visits and meeting with industry experts, and normalizing financial statements of Xiongcheng Company for valuation
- Researched the high-performance plastic industry, calculated crucial financial ratios of Runjia Technology based on its financial statements, and selected 5 companies with similar operations and sizes to perform comparable firm valuation
- Assisted full-time associates and analysts in *ad hoc* projects related to the medicine and manufacturing industries

Acceleration Capital Group **New York, NY**
Summer Analyst May 2017 – Jun 2017

- Conducted security analysis of Baker Hughes by reading industry and firm report and rendered a comprehensive report
- Updated the financial model of Baker Hughes by scrutinizing its quarterly SEC filing and evaluating its management guidance from its earnings call based on security analysis and information of the energy sector
- Calculated margins on incremental revenue of Baker Hughes in the past 5 financial years to create *pro forma* income statement based on historical incremental margin pattern and to make future earnings per share estimate

Northwestern Mutual LLC. **Los Angeles, CA**
Wealth Management Summer Analyst Jun 2016 – Aug 2016

- Researched fund allocations and analyzed historical performances of over 100 mutual funds and ETFs, compiled and analyzed acquired data, and prescribed investment recommendations to individual client based on his or her age, risk tolerance, investment objective, existing investment, and financial constraint
- Learned about the life insurance industry, contemplated different scenarios of client's receipt of death benefit, calculated discount cash flow and IRR of different permanent life insurance policies for clients based on their annual premium, dividend and policy amount, and presented analyzed result and recommendation to supervisor
- Reviewed Investment Purpose Statement, compiled electronic client information forms, generated 20+ numerical and graphical sales presentation to pitch new clients, and prepared required official documents

SKILLS, CERTIFICATIONS & INTERESTS

Languages Skills: Fluent in English, Mandarin, and Cantonese; Professional Proficiency in Spanish and Portuguese
Computer Skills: Bloomberg, Excel, PowerPoint, Java, C++, R, VBA, Python

Angie Liu

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EDUCATION

Columbia University Graduate School of Arts and Sciences, New York, NY
Master of Arts in Mathematics in Finance — Sep 2018-Dec 2019 (Expected)
Brandeis University, Waltham, MA
Bachelor of Arts, *cum laude,* in Economics — May 2017
GPA: 3.6, *Dean's List*
Minors: Business and Mathematics
King's College London, London, UK — Sep 2015-Dec 2015
Study Abroad

SKILLS

Software: Microsoft Office, Bloomberg, Wind Economic Database, Adobe Lightroom, Adobe Photoshop, Final Cut Pro X, iMovie,
Programming: Java, Mathematica, Stata, VBA,
Languages: Chinese (native), Latin (elementary)
Certificate: CFA level I candidate

RELEVANT EXPERIENCE

SWS MU Fund Management Co., Ltd., Shanghai, China — Jul 2018-Aug 2018
Junior Analyst in Risk Management Department
- Streamlined workflow in accessing the risk of firm's financial products through various models and edited risks disclosure of semiannual reports and contracts
- Analyzed the *Risk Factors* and *Terms and Conditions* of Kungfu bonds
- Established the credit default model based on Bloomberg model mechanism

Brandeis University Department of Economics, Waltham, MA — Sep 2016-May 2017
Teaching Assistant for Econometrics
- Instructed usage of data analysis and statistical software Stata
- Explained econometrics concepts and answered questions during office hours, recitations, and review sessions
- Graded homework and proctored exams for Economics Department

Oriental DreamWorks, Shanghai, China — Jun 2015-Aug 2015
Marketing Coordinator in Distribution Marketing Department
- Analyzed successful marketing strategies for movies of the year; created database of famous directors with their productions, film-making styles, and box office earnings
- Improved business plans for movie *Kung Fu Panda 3*; promoted the movie in China though social media, advertisements, and TV programs
- Organized press conference for the movie during the *18th Shanghai International Film Festival*

China Securities Co., LTD., Shanghai, China — Jun 2014-Aug 2014
Junior Analyst in Investment Banking Division
- Partnered with stockbroker team to work on due diligence process for listed company
- Performed market research and analysis using financial data software Wind
- Prepares and organized bid books and project instruction presentations

BINGCHEN LIU

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EDUCATION

COLUMBIA UNIVERSITY, GRADUATE SCHOOL OF ARTS AND SCIENCES New York, NY
Master of Arts in Mathematics of Finance 09/2017 – Expected 12/2018

CENTRAL UNIVERSITY OF FINANCE AND ECONOMICS Beijing, China
Bachelor of Science in Economics (Mathematical Economics & Mathematical Finance) 09/2013 – 06/2017
GPA: 92.51/100 GRE:330+4.0 TOEFL:109

PROGRAMMING / TECHNICAL SKILLS

- Skills: Python, R,C++, MATLAB, Bloomberg with Certificate, MySQL
- Proficient in Microsoft Word, Excel(VBA), Power Points, Access

COURSEWORK HIGHLIGHTS

- Math: Stochastic Processes, Probability Theory, Dynamic Optimization, Time Series, Numerical Methods in Finance
- Finance: Futures Options and other derivatives, Fixed Income Securities, Hedge Funds Strategies, Multi-asset management, Econometrics
- Programming: Data Structure and Algorithms, Machine Learning

EXPERIENCE

CITIC SECURITIES COMPANY LIMITED Beijing, China
Summer Intern, Custody Department, FoF Strategies Research 05/2018 - 08/2018

- Back-testing FoF Strategies: using python to clean the raw data of PE funds; writing back-testing program for FoF strategies based on backtrader package which supports multi functions (cash inflow and out flow, different share value calculation methods, self-defined commission and trading calendar etc.).
- Risk Control and Performance Analyst System: using VBA based MSCI Barra Aegis System to decompose the risk factors, analyze strategy performance and generate reports.
- Multi Factor Analysis: working with team to construct model and calculate factors (beta, size, value and etc.) based on factor analysis theory, calculating covariance using exponential weighting and market risk using GJR-GARCH model, speeding up the program by rewriting code using numpy and numba package, writing program to update the data and save them to database weekly.
- Daily analyzing reports: using cx_oracle package to download daily data from database and generating the daily analyzing reports.

SHENWAN HONGYUAN SECURITIES COMPANY LIMITED Beijing, China
Financial Analyst Intern 08/2016-03/2017

- Using 2000-2016 data for 27 nations’ currencies’ spot rates and forward rates to analyze the performance of momentum strategy.
- In sample test used two thirds of the data to modify the model. Out of sample test shows that the strategy can generate positive return and a good Sharp Ratio.
- Results showed that G10 currencies are less volatile than non G10 currencies. A combination of both types could generate more return but also higher volatility which would drag down the Sharp Ratio.

RESEARCH / ACADEMIC PROJECTS / FINANCIAL MODELLING

The Swap Spread Arbitrage Strategy New York, USA
Team project for courses 11/2017 – 12/2017

- Using 2000-2015 swap data and treasury data to analyze the performance of swap spread arbitrage.
- Analyze the performance using two-, three-, five-, seven-, and ten-year maturity swaps separately, using 2000-2007 data as in sample test and 2007-2015 as out of sample test and stress test.
- Results showed that the profitability of this strategy declined with time and the strategy performance is quite unfavorable under extreme market conditions like financial crisis.

HONORS / AWARDS / COMPETITIONS

- College Students Innovative Entrepreneurship Competition, Team Leader, Prized as State Level Project, 2015-2016
- Mathematical Contest in Modeling Honorable Prize

EXTRACURRICULAR ACTIVITIES

- Fenghuang Primary School, volunteer as a teacher, 2015
- Chief of the Organization Department in Student Union, 2014-2015
- Interest: Gaming, swimming

Henry (Hengyi) Liu

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Education

Columbia University, Graduate School of Arts and Sciences New York, NY
Master of Arts in Mathematics of Finance Expected Dec 2019
- Relevant Coursework: Time-Series Modeling, Stochastic Processes-Applications, Hedge Fund Strategies, Capital Markets

University of Wisconsin – Madison Madison, WI
Bachelor of Arts in Applied Mathematics 09/2014 – 12/2017
- GPA: 3.84/4.00, Dean's List Award, Distinctive Scholastic Achievement
- Relevant Coursework: Stochastic Processes, Linear Regression &Time Series, Real Analysis, Derivatives, Probability

Professional Experience

Shanghai Zhaoshun Investment Co. Ltd Shanghai, China
Quantitative Analyst Intern 01/2018 – 07/2018
- Developed a linear model in Python to monitor over 3800 stock funds positions in China to help fund managers identify changing market trends
- Constructed an alpha model by analyzing the change of fund position and stock holdings from quarterly reports to find portfolios with excess return compared to the index
- Led various research projects for firm partners, including localization of risk-parity strategies to China markets, and arbitrage strategies in China Future and Option markets with 23% return and 2.3% retracement in past 12 months

Wuxi Guolian Life Insurance Co. Ltd Wuxi, China
Actuarial Science Intern 06/2017-08/2017
- Performed analysis over 96 types of insurance products to identify 12 major product changes needed to be regulatory compliant and market competitive and reported directly to COO
- Designed profit test, sensitivity test and gross premium test models in VBA and R to calculate the gross premium, cash value and reserve to improve profit margin and control risk

Lujiazui International Trust Corporation Limited Wuxi, China
Summer Finance Intern 05/2016 - 08/2016
- Evaluated past five years' financial data of client company and prepared due diligence reports by analyzing risk factors
- Communicated with managers in client company to reach an agreement helping client company successfully raise 130 million dollars and finally, earned about 0.9 million dollars revenue from this trust plan

China Life Insurance Co. Ltd Jiangyin, China
Data Analysis Intern 06/2015-08/2015
- Participated in a program to deliver critical illness insurance program to over 600,000 local farmers in Wuxi region
- Led a group of five persons evaluating coverage of 108 types of critical illness in 30,000 local farmers' samples with VBA

Activities

DianDianAiXinGang (the biggest charity in Jiangyin, China) Jiangyin, China
Active Volunteer: 01/2007 - Present *Director of Planning:* 01/2013 – 09/2014
- Volunteered in western China to aid and tutor students every summer since 2007 and became the first volunteer in Jiangyin whom attended talk show in local TV station
- Collaborated with charity members to establish one-to-one assistance system to help needy students and aided over 600 students in five years
- Organized activities to care for physical and psychological health of old people who live alone every weekend since 2014

Additional

- Programming: Proficient in Python, Familiar with R, VBA, JavaScript, C++
- Certificate: CFA Level II Candidate (Exam Date: 06/2019), Passed SOA Actuarial Science Exam P, FM, MFE, MLC
- 4 years' trading experience in US stock market and 1.5 years' trading experience in China stock market
- Interests: Soccer, Basketball, Guitar, Reading, Meditation

Jingwen Liu

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EDUCATION

COLUMBIA UNIVERSITY — **New York, NY**
Master of Science in Mathematics of Finance — **Expected December 2019**
- Courses: Time-Series Modeling, Stochastic Processes, Numerical Methods, Capital Market and Investment, Fixed Income Portfolio Management

UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN — **Champaign, IL**
Bachelor of Science in Engineering Physics — **May 2018**
- Concentrated in Computational Physics; High Honor in College of Engineering
- Courses: Classical Mechanics, Electromagnetic Field, Quantum Mechanics, Statistical Physics, Numerical Methods, Differential Equations, Linear Regression

EXPERIENCE

CHINA ASSET MANAGEMENT CO. — **Shanghai, China**
Marketing Manager Assistant — **June 2017 – August 2017**
- Utilized computer programs to process data and test strategies provided by the manager and reported interest rates for different strategies
- Introduced the newly released mutual fund to designated bank's financial managers and collected information about the sales of the mutual funds
- Wrote principles and characteristics of various mutual funds and made concise advertisement versions

XUEYI EDUCATION — **Shanghai, China**
English Teaching Assistant — **June 2015 – August 2015**
- Gave lectures for groups of 3 students about how to take notes in listening sections for the TOEFL exam
- Helped students memorize SAT words and answered questions on practice exams
- Made learning plans for students and presented their progress to their parents

RESEACH AND PROJECT

UNIVERSITY OF ILLINOIS — **Champaign, IL**
Magnetic Susceptibility Lab — **September 2017 – December 2018**
- measured and comparing magnetic susceptibility for different material by analyzing the hysteresis loop
- Heated ferromagnetic to a paramagnetic state and found out Curie temperature for each material

UNIVERSITY OF ILLINOIS — **Champaign, IL**
Data Structure Lab — **February 2016 – May 2016**
- Implemented disjoint set data structure, generated a random maze and solved the maze
- Designed a photo mosaic program to generate pictures with hundreds of photos

ADDITIONAL INFORMATION

Languages: English (fluent), Mandarin (native)
Computing: Proficient in Python, C++, R, MS Office
Interests: singing

TIANSHU LIU

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EDUCATION

COLUMBIA UNIVERSITY — New York, NY

2018-2019 Expected — *Master's degree, Mathematics w/ a Specialization in the Mathematics of Finance*

- Relevant Courses: Intro to the Math of Finance, Time-Series Modelling, Stochastic Processes, Programming for Quantitative & Computational Finance, Quantitative Methods in Investment Management
- GMAT 760/800, GRE Quantitative: 170/170

HAMILTON COLLEGE — Clinton, NY

2012-2016 — *Bachelor's degree w/ honors, Mathematics and Economics, Dean's Lists Major GPA: 4.0*

- Men's Varsity Rowing Team; 2013-2014 ECAC/ NIRC Steward's All-Academic Team; 2014 NESCAC Spring All-Academic Team
- Hamilton College Orchestra, First Bassoon

THE LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE — London, England

2014-2015 — *The General Course, Finance, Rigorous Probability Theories and Econometrics*

- LSE Rowing Club Senior Team First VII
- Active Member of the Business Society

EXPERIENCE

XINGTONG CAPITAL — Shanghai, China

2017-2018 — *Analyst, Private Equity Department*

- Conducted market and industry research, and company-specific due diligence and analysis
- Attended management presentations, reviewed due diligence reports, and prepared internal investment proposals in conjunction with originators

BANK OF COMMUNICATIONS NEW YORK BRANCH — New York, NY

2016 — *Analyst, Risk Management Department*

- Ensured Branch's compliance with regulatory guidance on various risks, including validation of quantitative models and conducting compliance reviews on relevant procedures and documents
- Assisted with drafting the Bank Information Systems Security/Cybersecurity Program

ASIAN ROWING FEDERATION — Beijing, China

Summer 2015 — *Intern, Head Office*

- Initiated and organized multiple rowing races and promotional events in Beijing, Shanghai, and Shenzhen, including Shenzhen City Sprints

INDUSTRIAL AND COMMERCIAL BANK OF CHINA NEW YORK BRANCH — New York, NY

Summer 2014 — *Summer Analyst, Corporate Banking Department*

- Performed research on macro-economics, credit ratings, industries or specific customers
- Consolidated data of the Branch's credit portfolio and prepared monthly credit line renewal applications and post-disbursement reports
- Built detailed financial models to evaluate financial performances of companies

TUCK SCHOOL OF BUSINESS AT DARTMOUTH — Hanover, NH

Summer 2014 — *Tuck Business Bridge Program*

- Participated in a highly selective 30-day program taught by MBA faculty, providing courses including accounting, finance, microeconomics, marketing and strategy

PERSONAL

- CFA Level II candidate; Society of Actuary Exam P Certificate
- Native Chinese Speaker
- Python; Spreadsheet Modeling (Excel); Statistics (R, Stata, Minitab); S&P Capital IQ
- Interests: Investment; Orchestra; Poker; Rowing; Basketball; European soccer

CHANG MA

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EDUCATION

Columbia University New York, NY
Master of Arts in Mathematics of Finance Expected 12/2019

- Coursework: Stochastic Processes; Programming for Quantitative and Computational Finance; Modeling and Trading Derivatives; Statistical Inference / Time-Series Modelling

Sun Yat-sen University Guangzhou, China
Bachelor of economics, double major in Finance and Applied Mathematics 06/2018
GPA: 3.9/4.0

PROFESSIONAL EXPERIENCE

Goldport Capital Shenzhen, China
Equity Research Assistant Intern 07/2017-08/2017

- Collected IR records and financial statements of companies in the smartphone supply chain, analyzed the trend of double cameras and OLED screens, and forecasted the profit growth of relevant companies;
- Located undervalued stocks by processing data of supply chains of Tesla, BYD, etc.

Chess Sachs Company Limited Shenzhen, China
Derivatives Analyst Intern 06/2016-08/2016

- Analyzed technical indicators and used Binominal Pricing Model to recognize the underpricing of 50ETF options on June 24th and made arbitrage strategies;
- Compared the risk-free rate, the yield and time value of 50ETF options, and earned an excess return by shorting put options.

Haitong Securities Company Limited Shenzhen, China
Front Desk Intern 01/2016-02/2016

- Tabulated data and remodeled reports for department transformation presentation;
- Verified reimbursement vouchers and tabulated sales data of over 100 portfolio salesmen.

PROJECT EXPERIENCE

Research on Order Imbalance indicators in China Futures Market
Southern China Center for Statistical Science 02/2016-06/2017

- Constructed strategies based on time series regressions of Order Imbalance indicators, simulated the trends of price of IF1005, and tested the results in Stata.

The Study on Stock Pricing Efficiency and Public Information
Sun Yat-sen University 11/2017-05/2018

- Programmed a system using MATLAB and STATA to automatically sort trading data, complete RDD experiments and sensitivity analysis;
- Applied regression discontinuity design in experiments to observe the effect of Exchange provided trading information on the pricing efficiency of individual stocks.

SKILLS & INTERESTS

Computer: C++/C#, MATLAB, Stata, ORACLE SQL
Certificate: CFA Level 1 Certificate
Interests: Swimming, Sketching, etc.

Daniel J. McNulty II

PO Box 630025 Flushing, NY 11363 ● (347) 522-2687 ● DanielJMcNultyII@gmail.com

EDUCATION

Columbia University Graduate School of Arts and Sciences — **New York, NY**
Master of Arts in the Mathematics of Finance — *September 2018 – Present*

- Coursework: Statistical Interference/Time-Series Modelling, Stochastic Processes

The Cooper Union for the Advancement of Science and Art — **Lower East Side, NY**
Bachelor of Chemical Engineering — *August 2013 – May 2017*

- Full Tuition Merit Scholarship
- Coursework: Linear Algebra, Probability and Statistics, Calculus, Differential Equations

WORK EXPERIENCE

Credit Suisse Group — **New York, NY**
Information Technology Business Analyst — *June 2016 – August 2016*

- Optimized and automated tracking of 8000 technical infrastructure assets in Excel using VBA for future allocated cost savings
- Produced 2 instructional videos, a promotional video, and a social media marketing plan with my team to promote mobile applications within the firm
- Presented projects to groups of up to 80 people, including 10 department heads, using PowerPoint

PROJECTS

Practical Python with Applications in Finance — **ScriptUni.cm**
Asset-Backed Security Modeling Case Study — *August 2018*

- Implemented structured security and tranche classes using Python with waterfall mechanisms that tracked every cash flow within the asset-backed security
- Developed functions to determine the IRR, DIRR, average life, and rating of each tranche
- Created a Monte Carlo simulation to simulate different credit default scenarios

C++ Programming for Financial Engineering — **QuantNet.com**
Option Modeling and Pricing Project — *May 2018 – June 2018*

- Designed American and European option classes using C++ that encapsulated Black-Sholes option pricing and option sensitivity calculation functionality
- Analyzed Monte Carlo and Finite Difference methods utilized in pricing European options, including writing functions to compute the standard deviation and error of the Monte Carlo simulations
- Refined C++ programs displaying Monte Carlo and Finite Difference output in Excel spreadsheets

TrioCup LLC. — **New York, NY**
Financial Analyst — *May 2017 – April 2018*

- Devised and implemented business plan to gain capital and commence manufacturing
- Contacted manufacturers for estimates on production costs, evaluated material and labor costs of manufacturing cup at scale, and modeled potential cash flows from bringing the cup to market
- Recipient 2017 New Plastics Economy Circular Design Challenge $100,000 Innovation Prize

CERTIFICATIONS

Baruch College Pre-MFE Program, The City University of New York — **New York, NY**

- Probability Theory for Financial Applications — *October 2017 - December 2017*
- QuantNet C++ Programming for Financial Engineering — *March 2018 - June 2018*
- ScriptUni Practical Python with Applications in Finance — *June 2018 – August 2018*

The Wharton School of the University of Pennsylvania Online — **Coursera.org**
Business Foundations Specialization — *June 2015 – September 2015*

- Coursework: Corporate Finance, Financial Accounting, Operations Management, and Marketing

VOLUNTEER EXPERIENCE

Project HAPPY — **New York, NY**
Lead Group Counselor — *September 2009 - Present*

- Train and motivate group counselors on how to interact with participants with various disabilities
- Provide special needs participants with sports and recreational activities on a weekly basis
- Cultivate social skills and self-esteem in children often marginalized due to mental impairments

PROGRAMMING SKILLS Python, C++, MATLAB, VBA, and C

INTERESTS Black belt in Shotokan karate, avid bass player, tennis player, and swimmer

PINAKPANI MISHRA

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EDUCATION

COLUMBIA UNIVERSITY New York, USA
MA IN MATHEMATICS OF FINANCE *(Sept'18 - Expected Dec'19)*

- ***Current Coursework:*** Introduction to the Mathematics of Finance, Programming for Quantitative and Computational Finance, Statistical Inference and Time-Series Modelling, Stochastic Processes and Applications
- ***Future Coursework***: Stochastic Methods in Finance, Numerical Methods in Finance, Hedge Fund Strategies And Risk, Multi-Asset Portfolio Management, Linear Regression Models, Non-Linear Option Pricing

VIT UNIVERSITY Vellore, India
B.TECH, MECHANICAL – Specialization in Energy Engineering ***CGPA: 8.86/10.0*** *(Jun'10 – May'14)*

- ***Relevant Coursework:*** Multivariable Calculus, Differential and Difference Equations, Complex Variables and PDEs, Probability and Statistics, Applied Numerical Methods, Operations Research, Business Economics

EXPERIENCE

NOMURA SERVICES INDIA PVT. LTD. Mumbai, India
Senior Associate *(Jul'17 – Jun'18)*

- Reviewed around 800 Derivative trades involving FX, Credit, Commodity and Rates underlyings
- Built a tool using VBA to capture trade amendments and their dollar impact

CRISIL LTD. (AN S&P GLOBAL COMPANY) Mumbai, India
Research Analyst *(Jun'14 – Jul'17)*

- Reviewed around 2000 trade bookings of complex over the counter Equity and Hybrid Derivative trades to ensure their accurate representation in Risk Management Systems saving approximately $700K
- Developed scenario analysis templates to model terminal payoffs
- Created Model Understanding documentation for complex booking models
- Defined out of scope criteria and monitored model limitations
- Optimized various deliverables resulting in a save of 2 FTEs
- Attempted at creating a database which would result in saving 12 hours of effort per day

PROJECTS

- ***Design of Transmission system of a Solar Powered Vehicle*** *(B. Tech. Final year project)* *(Jan'14 - May'14)*
  Designed the transmission system of a Solar Car using mechanical engineering software which also involved conceptualization of various other car components and choosing of innovative materials and systems
- ***Optimization of number of air conditioning vents*** *(B. Tech. Academic project)* *(Jun'13 - Dec'13)*
  Used Computational Fluid Dynamics (CFD) to optimize placement of air conditioning vents in a car
- ***Industrial Internship at Larsen & Toubro Ltd.***, *(May'12 - Jun'12)*
  Project: Causes of high Trip Force and Cp/Cpk analysis of Circuit Breakers

COMPUTER SKILLS & OTHERS

Programming Languages: C, C++, Python, MATLAB, VBA for Excel
Languages: English (fluent), German (beginner), Hindi (native), Odiya (native)

HONOURS & ACTIVITIES

- S&P Level – Bronze ACE Award for efficiently auditing the trade amendments
- CRISIL Level – R&R Award (one of the highest CRISIL Awards) for exceptional quality of trade reviews
- CRISIL Level – Best Football Player of the tournament Award
- School Sub-Juniors Sports Champion
- Quizzing - Represented school at the prestigious BQC (Bournvita Quiz Contest)

CHUAN QIN

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EDUCATION

COLUMBIA UNIVERSITY **NEW YORK**
M.A. in Mathematics of Finance September 2018-December 2019
- Core courses: *Introduction to the Mathematics of Finance, Statistical Inference, Stochastic Processes - Applications*

RENMIN UNIVERSITY OF CHINA **BEIJING**
B.S. in Mathematics and Applied Mathematics GPA: 3.74/4.0 September 2014-July 2018
- Core courses: *Mathematical Analysis, Higher Algebra, Probability, Mathematical Statistics, Functional Analysis, Time Series Analysis, Ordinary Differential Analysis, Econometrics, Real Analysis, Data Structure, Complex Function, Finance*

THE CITY UNIVERSITY OF HONG KONG **HONG KONG**
Exchange Study GPA: 3.86/4.0 August 2016-December 2016
- Courses taken: *Microeconomics, Partial Differential Equations, Applied Statistics, Mathematical Finance, Introduction to Stochastic Processes,* and *Conducting Online Commerce in China*

WORK EXPERIENCE

DELOITTE **BEIJING**
Consulting Intern, A&IM February 2018-June 2018
- Participated in technology research and development for 3 corporations in auto-industry, information industry, financial institutes, etc
- Processed mass data and made *Tableau* dashboards for data visualization for 4 programs
- Provided user and application support to clients to ensure their reliable and satisfactory operations, including troubleshooting, program enhancement and documentation update

TAIKANG LIFE INSURANCE CO., LTD. **BEIJING**
Intern, Data and Information Center July 2017-August 2017
- Extracted healthcare industry data with Database and analyzed the data with SAS
- Analyzed the sickness status in specific areas based on data analysis results to customize the insurance plans
- Designed an *Online Home Care Service*, allowing patients to call a doctor in on the app without visiting hospitals

BLUEFOCUS COMMUNICATION GROUP **BEIJING**
Data Supporting Intern, Big Data Division February 2017-June 2017
- Merged consumption and consumer data of appliance and FMCG industries with VBA
- Calculated CPI and BPI with R programming, then applied Table in data visualization
- Imported the processed data into Database and completed analysis reports

CHINA SECURITIES CO., LTD. **LIANYUNGANG**
Assistant of Product Manager (PM), Sales Department January 2017-February 2017
- Assisted in product development, including requirement analysis, product positioning, and marketing
- Made cold calls to clients for feedbacks and analyzed sales data to work out the effects of products
- Filed client materials, took minutes in regular meetings and assisted with other general work of PM

ACADEMIC EXPERIENCE

PRICING OUTSOURCING OF PAID PHOTOGRAPHING SERVICE **BEIJING**
Team Leader, China Undergraduate Mathematical Contest in Modeling (Second Award) September 2017
- Employed MATLAB in logistic regression analyses and assessed Goodness of Fit based on machine learning
- Calculated the analysis results with principle of optimality and interior point methods, and then validated the calculation in BP neural network model

STATIC FORCE ANALYSIS AND DESIGN OF MOORING SYSTEM **BEIJING**
Team Leader, China Undergraduate Mathematical Contest in Modeling (Second Award) September 2016
- Used piecewise extrapolating method to conduct static force analysis
- Did iterative computations in MATLAB and designed a mooring system based on a simplified model

EVALUATION SYSTEM OF EDUCATIONAL INVESTMENT **BEIJING**
Team Leader, Mathematical Contest in Modeling (Honorable Mention) February 2016
- Collected data of different universities online and integrated those data into Excel
- Assessed the ROI in two models—a single-index model and an extended multi-index model
- Conducted non-linear regression analysis with SPSS based on Delphi method to optimize investment strategies

ADDITIONAL INFORMATION

Computer skills: Advanced skills in C, R, Python, SQL, STATA, SPSS, SAS, MATLAB, VBA, Microsoft Office, Tableau
Honors: First-class JD Scholarship for Academic Excellence, Second-class RUC Scholarship for Academic Excellence
Activities: Teaching assistant of Mathematical Analysis (tutoring 130 students from 09/2017 to 01/2018&03/2018 to 06/2018); head of Sports Department in Student Union (09/2014-07/2016); volunteer in Xiangshan Gerocomium (05/2017)

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EDUCAITON

University of California, San Diego, La Jolla, CA **Sep.2013-Jan.2017**

- Bachelor of Science awarded in January 2017
- Magna Cum Laude by University of California, San Diego on Dec. 10th 2016
- Major: Joint Mathematics and Economics | Overall GPA: 3.83/4.0 | Major GPA: 3.97/4.0
- Provost Honors for six quarters: Fall 2013, Spring 2014, Winter 2014, Fall 2014, Spring 2015, Winter 2015
- ***Relevant Coursework:*** Calculus Science & Engineering (A+), Linear Algebra (A), Econometrics (A+), Mathematical Reasoning (A), Intro to Numerical Analyst/Linear (A), Intro to Numerical Optimization/Linear Programming (A), Intro to Mathematical Statistics (A), Intro to Computational Statistics (A-), Ordinary Differential Equation (A)

PROFESSIONAL EXPERIENCE

Minsheng Securities **Oct.2017-Mar.2018**

Analyst Assistant in Macro Fixed Income Division **Beijing, China**

- Gathered the annual report and disclosed data in oil and rental house markets, and conducted analysis with knowledge in time series to predict the industrial trends for the consecutive year.
- Formulated the investment portfolio plan for clients by analyzing quarterly GDP, CPI, and leverage data with Eviews and drawing the market trend graph with excel to maximize the profits while keep the volatility low.
- Assisted in organizing IMF World and China Economic Outlook, co-held by IMF and Minsheng Securities Academy.

China Securities Co., Ltd. **Jul. 2017-Oct.2017**

Analyst in Fixed Income Division **Beijing, China**

- Analyzed bond issuing announcement and credit rating report, preliminarily estimated the issuing body of enterprise bond; participated in the road show and conducted deeper analysis on the operation situation of the issuing body
- Collected data and studied the domestic economic trends for publishing articles on the department public account
- Checked the data and verified the legal compliance of bond subscription documents from financial institutions, updated the bond pricing and quantifying information, obtained the big data and established the investors data base.

China International Capital Corporation **Jun.2015-Jul.2015**

Leveraged Finance Group-Analyst, Investment Banking Division **Beijing, China**

- Followed up with a leveraged buyouts case and developed diverse analytical, quantitative, and qualitative skills by building financial models in the valuation analysis process.
- Coordinated due diligence, including the review of forecasts and budgets, market dynamics, and strategies initiatives

ADDITIONAL ACADEMIC EXPERIENCE

University of California, San Diego Opportunities Abroad Program, Hong Kong **Sep.2015-Dec.2015**

Exchange Student

- Took courses in Introduction to Math Analysis and Intermedia Macroeconomics with a GPA of 3.5/4.0
- Acquired academic diversity through communicating with professors and industry professionals in finance

ACTIVITIES AND VOLUNTEER EXPERIENCE

Volunteer | **Hsi Lai Temple, Los Angeles** **Apr.2017**

- Served as the volunteer for the donation evening party, to help people in need of financial aid

Active Member | **Chinese Student Association** **Sep.2015-Jun.2016**

- Participated in the organization of student activities and coordinated among different departments

LANGUAGE AND SKILLS

Languages: English (advanced), French (elementary), Cantonese (elementary)

Computer Skills: Stata, MATLAB, R, Python, C++, SQL

Hobbies: Piano, Sports

Pierre-Etienne RAUL

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EDUCATION

Columbia University, New York, USA *Sep 2018 – Present*

- MA candidate in the Mathematics of Finance, double degree with Ecole des Mines de Nancy, France.
- Fall courses: Stochastic Processes, Financial Times Series Modeling and programming on large data sets in R, Programming for Quantitative and Computational finance, Statistical methods in finance, Mathematics of Finance.
- Spring courses : Stochastic and Numerical methods in finance, Practitioners' seminar.

Ecole des Mines de Nancy, Nancy, France *Sep 2016 – May 2019 (expected)*

- BS & MS with major in Applied Mathematics, minor in Economics and Finance ; GPA: 3.8/4.0
- One of the best French graduate engineering schools (*Grandes Ecoles*).
- Main courses : Partial Differential Equations, Probabilities for Financial Mathematics, Computer Science and Programming in Python, Data analysis in R, Monte Carlo Method, Constraint and Unconstraint Optimization, Statistics, Introduction to Time Series, Clustering Methods, Numerical Analysis, Operational research, Economics, Corporate Finance and Strategies.

PROFESSIONAL EXPERIENCE AND PROJECT

ICube laboratory, Strasbourg University, France *June 2018 – August 2018*

- Summer internship in IT : Programming and data analysis on motorcycle helmets' characteristics while impacted on different areas. Determination of correlations between fixed parameters and head injuries. Participation in the development of a software.

Ecole des Mines de Nancy, Nancy, France *Sep 2017 – May 2018*

- Research project in Applied Mathematics : "Probabilistic modelling about the power field" whose objective was to study some properties of the Brownian motion (arithmetical Brownian motion, geometric Brownian motion and Cox-Ingersoll-Ross' model) and their application to determine pricing rules.

Institute of Legal Medicine, Strasbourg University, France *July 2017*

- Summer internship in IT : Creation of a database to index the samples collected on crime scenes and during autopsy, and bill their conservation cost to Courts.

ACTIVITIES AND LEADERSHIP

- President of *JTM – Journal Télévisé des Mines*, Ecole des Mines de Nancy, videos realization, team management, recording of events, management and organization of the broadcast of videos in front of all the students.
- Financial manager among Humamines, Ecole des Mines de Nancy, organization of charity events.
- Fencing (practiced for 11 years in Strasbourg, France, local and national tournaments).
- TA at *Main à la pate*, volunteer, teaching children scientific phenomenon in elementary schools.

COMPUTING AND LANGUAGE SKILLS

- Programming Languages : Python (Pandas, Numpy, SkicitLearn, OS), MATLAB, SQL, VBA
- Languages : French (Native) - English (Fluent) - German (Beginner)

AMIT SARASWAT

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EDUCATION

Columbia University *Aug'18 – Dec'19 (expected)*
MA, Mathematical Finance *New York, USA*
Coursework (In progress): Stochastic Processes, Time Series Modeling, Capital Markets and Investments

Indian Institute of Technology (IIT), GPA (US equivalent): 3.4/4.0 *Jul'10 – May'15*
MS-BS (Dual Degree), Mechanical Engineering (specialization: Computational Dynamics) *Kanpur, India*
Coursework: Fundamentals of Computing, Linear Algebra, Calculus, Operations Management, Experimental Methods

- Awarded "Exemplary Leadership Certificate" (conferred to only 4 out of 860 students of the graduating class)
- **Publications**: (a) Journal Publication (cited 5 times in 18 months) and (b) Conference Publication

Coursera
Independent Coursework: Data Scientist Toolbox, Machine Learning

COMPUTING AND LANGUAGE SKILLS

- Programming: Python, R, MATLAB, C, SQL, VBA
- Proficiency in using MS Office with Bloomberg and Reuters

WORK EXPERIENCE

Manager, Edelweiss Capital, *Mumbai, India* *Nov'17- Jul'18*
- Fundamental analysis, modeling and innovation of new quantitative strategies on index futures and options
- Created offerings for trading in option-future and cash-future spread markets through direct market access (DMA)
- Innovated lending on commercial papers and certificates of deposit as a new market offering

Analyst, Global Markets, Credit Suisse, *New York, USA/ Mumbai, India* *Jun'15- Oct'17*
- Developed an **Intraday P&L monitor** for 5000+ counterparties with over 400,000 positions **using MATLAB,** which showed live impact of sudden market moves (reduced lead time from 1 day to 15 minutes)
- Identified clients with **settlement risk on repo** and fixed income clearing **using k-means clustering algorithm in R**
- Computed **theoretical custom stress P&Ls** across asset classes for regulatory reporting to C-CAR, FINMA and PRA
- Developed and deployed **10+ controls to monitor counterparty exposure** on key risk metrics including short gamma
- Proficient on VaR models like Monte Carlo, parametric and historical simulations
- Active risk management, margin and financing analysis as primary coverage on **80+ HF portfolios**
- Closely monitored financial markets, interpreted contemporary events, identified potential business opportunities and risks, and predicted their impact on client positioning and revenues
- Assisted in producing innovative publications sent out to 300+ asset managers (**quoted ~20 times in external media in 2017**) to help hedge downside risk and generate trading signals **using over 30+ market metrics**

Summer Intern, Essex Lake Group [Advanced Machine Learning Team], *Gurugram, India* *May'14- Jul'14*
- Developed a **predictive model in R using Gradient Boosting algorithm** on a dataset of 2.2 million customers
- Analyzed correlation matrix and applied **Principal Component Analysis (PCA)** reducing variable count from 224 to 48

Summer Researcher, Department of Mathematics, Technische Universität, *Munich, Germany* *May'13- Jun'13*
- Applied numerical simulations of Boltzmann equation for Hubbard chain and time-dependent Wigner function **in C**

LEADERSHIP POSITIONS

Head, Career Cell, *IIT Kanpur, India* *Feb'13- Feb'14*
- Led a 4-tier team of 118 members to facilitate placements and internships for 1900 students involving 350 companies
- Held negotiations and presentations with over 100+ firms, and spearheaded a 25-day career fair

Founder Coordinator, Campus LGBT Support Group, *IIT Kanpur, India* *Feb'14- Feb'15*
- Organized welfare, social and counseling programs for the LGBT community utilizing a budget of 2 million Indian Rupees

SANCHI SHAH

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EDUCATION

Columbia University, New York, United States **Expected : December 2019**
Masters of Arts in Mathematics of Finance

Certified Financial Analyst : Level 1 Candidate **Expected : December 2018**

D. J. Sanghvi College of Engineering, Mumbai, India **May 2018**
Bachelor of Computer Engineering *with First Class* (CGPA of 7.5)

PROFESSIONAL EXPERIENCE

IIT Bombay (Prof Supratim Biswas) **July 2017 – December 2017**
Data Analyst Intern

- Conceptualized and developed an online celebrity stylist system to tackle their problem of affordability and availability single-handedly.
- Integrated the results obtained from a celebrity database and certain theoretical results that involve evaluating the body type, facial shape and features etc.
- Implemented machine learning in the system based on user feedback in order to improve its accuracy.
- Domains and Technologies used : Data Analysis, Image Processing, Machine Learning, Python, OpenCV and APIs

Axis Capital, Mumbai **May 2017- June 2017**
Investment Banking Intern (Mergers and Acquisitions)

- Performed financial modeling to get valuations for companies using discounted cash flow analysis, precedent transaction analysis, multiples or the comparable company analysis method and market valuation.
- Identified targets in the Indian NBFC space on the basis of key criteria such as the book size, PE investment, etc. and presented it to an Indian group with net worth of USD 8.5 bn.
- Presented opportunities in the building materials - Tiles sector to an Indian textile company with Market cap of US 1bn.
- Conducted company and industry research, including research on trends in retail and NBFC space. Used databases such as Capital IQ, EMIS and Mergermarket extensively to extract other financial information for performing financial analysis and obtained working knowledge of Bloomberg and Thomson Reuters.

Activate Dimensions, Mumbai **August 2016 - November 2016**
Website development and marketing Intern

- Developed the Official website of Parinee Realty Pvt. Ltd, the best commercial project in Mumbai – www.parineei.com and a corporate website for the client i.e www.parinee.com
- Conducted project launch marketing related research with regards to outdoor display i.e. innovation and premium location.

PROFESSIONAL EXPERIENCE

Predicting the success of an insurance policy **July 2017 – May 2018**

- Built a system to calculate the premium based on the sum assured. Performed linear regression and then applied Principal Components Analysis (PCA) and clustering (K-means algorithm) on a huge dataset to reduce the dimension of the dataset using Gini Index developed in R, Python and MATLAB.
- Implemented the random forest classification algorithm while utilizing the bootstrap method to create different trees to obtain a system that suggested the most apposite policy for a customer depending on his/her individual needs.

Decision making under uncertainty and risk **September 2017 – March 2018**

- Implemented different distributions under Monte Carlo Simulation
- Performed and integrated probability assessments and calculations to get accurate results to provide the most optimum way for a company to spend their money in order to get maximum profits and optimize risks.

E-commerce Website **July 2016 – November 2016**

- Performed structured and object oriented analysis and design for the website.
- Developed a fully functional ecommerce website for shopping (both front end and back end) using Web Technologies.
- Secured the A++ grade (Received by only 2 other people in a class of 140).

TECHNICAL COURSES AND SKILLS

- Cleared ACET, the entrance level examination for Actuarial Science, with a distinction score.
- Completed the BSE (Bombay Stock Exchange) course on the Basics of Stock Markets.
- **Certified Courses :** C(ISO certified), C++(ISO certified), Microsoft Certified Cross App Development, Microsoft Certified Open Source Mobile App and HTML5 Application Development Course, CSI and ACM certified courses in Python, Django, Blenders, Bootstrap and Wordpress, Certified Microsoft Technology Associate in C# (in Visual Studios), Google certified Google AdWords
- **Other Software Skills :** R , Python, Java, MySQL, Django, ASP.NET, PHP, HTML, CSS, Javascript, Distributed Database Systems, Android, Git, jQuery, Advanced EXCEL, Photoshop

EXTRA CURRICULAR ACTIVITIES

- Earned the 4th place at the International Mathematics Olympiad, a silver medal at the International Olympiad of Mathematics, the 4th place at the Maths Talent Search Examination and merit scores in IPM (Institute of Promotion of Mathematics).
- Creatives Head, DJCSI for the year 2015 – led the creative aspects and organized various technical workshops,events and hackathons.
- Pioneered with the Motisha foundation for promoting minority benefits among the Jain community in the years 2014 and 2015 benefitting 250 needy students, to the tune of $160,000 from the government.
- Organized the donations and setting up of two dialysis machines at the Prince Aly Khan hospital, each costing $10,0000 giving free services to kidney patients for atleast the next 7 to 8 years.

Kang (Annabelle) Shao

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EDUCATION

Columbia University in the City of New York — **New York, NY**
Master of Arts in Mathematics of Finance — *Expected Dec 2019*
- **Anticipated Coursework:** Time-Series Modeling, Stochastic Processes, Hedge Funds Strategies and Risk

University of California, San Diego — **La Jolla, CA**
Bachelor of Science in Joint. Mathematics and Economics, Minor in Business Finance — *Dec 2017*
- **Cumulative GPA:** 3.7/4.0 | **Minor GPA:** 3.9/4.0
- **Honors:** Provost Honors
- **Relevant Coursework:** Investment Banking, Enterprise Finance, Financial and Managerial Accounting

PROFESSIONAL EXPERIENCE

Bosera Asset Management Co., Ltd. — **Shenzhen, China**
Summer Analyst, Research Department — *Jul 2017 – Aug 2017*
- Independently researched and analyzed a Chinese pet treats stock and presented investment thesis to the managers
  - Projected Chinese and the U.S. pet treats industry growth by researching industry trend and analyzing key drivers
  - Conducted company due diligence by interviewing 2 industry experts, and identified company's core competencies by conducting comprehensive research on the company, the industry, and its competitors
  - Built valuation model based on company's financial performances, revenue drivers, and future development plans

China Securities Co., Ltd. — **Shenzhen, China**
Summer Analyst, Investment Banking Division — *Aug 2016 – Sep 2016*
- Participated in the IPO of a healthcare company ($2.86Bn), examined the accuracy and logic of interim audit report and prospectus, and assisted with interim data entry for preparation of prospectus filings
- Assisted in organizing 3 road shows for private placements, updated industry data and examined the accuracy for the IPO tombstones, as well as sorted investors' information based on office locations
- Drafted IPO pitchbook of a precision manufacturing company by conducting comprehensive industry research and introducing comparative advantages to clients

Ernst & Young — **Shenzhen, China**
Summer Intern, Assurance Department — *Jul 2016*
- Validated changes in subsidiary companies' financial statements provided by clients and inquired clients about adjustments to assure the accuracy of prepared financial statements
- Assisted in executing the walk-through test and the test of controls to test the standard process of daily operations

Philmont Capital — **Temecula, CA**
Private Equity Intern — *Mar 2016 – May 2016*
- Conducted industry due diligence and identified potential investment opportunities by preparing comprehensive market research and industry trend analysis on a daily basis
- Maintained and reported valuation models to the principal based on updated target company financials

EXTRACURRICULAR EXPERIENCE

Student Foundation Investment Fund — **La Jolla, CA**
Senior Equity Analyst — *Apr 2015 – Dec 2017*
- Conducted due diligence on companies in different industries for a $700,000 student-run endowment fund
- Pitched stocks based on fundamental research, comparable company analyses, and discounted cash flow analyses

Undergraduate Investment Society — **La Jolla, CA**
Co-Vice President of Research and Education Committee — *Oct 2015 – Dec 2017*
- Prepared presentations covering multiple topics such as market and industry news and valuation techniques weekly
- Planned annual campus-wide Financial Horizons Conference which attracted 700+ registrants

BNP Paribas Ace Manager Competition — **La Jolla, CA**
Team Lead — *Apr 2016*
- Led a team of 3 to compete in 10 cases related to institutional banking and ranked top 10% of 2000+ teams worldwide
- Utilized various firm valuation and derivative asset pricing models to deliver business case analyses

INTERESTS & SKILLS

Languages & Applications: Mandarin (Native), English, Microsoft Office, Wind
Qualifications: Passed CFA Level I and FRM Part I
Activities: Asia Investment Banking Conference, TechCrunch Shanghai Volunteer, Co-Vice President of Event Coordination in Chinese Business Society
Interests: Dance (15 years of Chinese and contemporary dance), Guzheng (five years), Volunteering, Traveling

Tianling Shen

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EDUCATION

Columbia Universtiy New York, NY

- Master of Arts in Mathematics with specialization in Finance Sept. 2018 - Present
- Anticipated coursework: Stochastic Process, Time-series Modelling, Numerical Methods in Finance, Math Methods in Financial Analysis, etc.

Fudan Universtiy Shanghai, China

- Bachelor of Science in Physics; Minor in Economics Sept. 2014 - June 2018
- Relevant coursework: C Programming, Mathematical Physics Methods, Linear Algebra, Probability and Statistics, Econometrics, etc.
- Research Paper: Iron Kα line of Proca stars, JCAP 1708:014 (2017)

WORK EXPERIENCE

Shenyin & Wanguo Futures July 2018 - Aug. 2018

Intern, IT Department

- Modified C++ demos for different quantitative trading counters, to improve the service for corporate investors;
- Developed the market demo based on the "Femas" quantitative trading counter independently;
- Simplified the demo by integrating both market and trade functions based on the "X-speed" quantitative trading counter;
- Added the function of the commssion rate and margin rate inquiry to the trade demo based on the "CTP" quantitative trading counter.

ACEMDEMIC PROJECT

Quantify the trading behavior using Baidu Trend Mar. 2017 - May 2017

- Back tested a trading strategy based on weekly Baidu Trend search frequency, and found existed profit applying to the past 5 years SSE Composite Index when choosing proper keywords;
- Concluded that the Chinese investors' trading behavior could be inferred from the search frequency of certain market-related keywords.

Iron Kα line of Proca stars Aug. 2016 - Dec. 2016

- Calculated the spectrum of the photons received on the Earth from the reflection of the accretion disc around the Proca star through a C language program;
- Used the existing model for the black hole to fit the calculated spectrum and found that Proca star and the black hole could not be distinguished using the spectrum model due to the good fitting result.

SKILLS & INTERESTS

Computer Languages	C/C++, STATA, MS Office, Pascal, Visual Basic
Interests	Soccer, Violin

Yu（Julia）Sheng

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SUMMARY OF QUALIFICATIONS

• C, Java, Python, Processing and R
• Solid working knowledge of MS Excel, Mathematica, Matlab, Latex
• Equipped with knowledge of financial math and operation research(linear programming)
• Exceptional analytical and problem solving skills
• High adaptability to the fast-paced and dynamic environment
• Excellent interpersonal and presentation skills
• Very proactive learner, always taking initiative

EDUCATION

Bryn Mawr College, Bryn Mawr, PA **B.A. Aug 2015 - May 2018**

Major in Mathematics (Hons.), Minor in Computer Science, Cumulative GPA 3.87, Major GPA 3.95, GRE 330

Relevant Courses: Time-Series Modeling, Stochastic Process, Financial Mathematics, Linear Optimization, Abstract Algebra, Real Analysis, Linear Algebra, Discrete Math, Statistical Methods and Applications, Data Structure (Java), Systems Programming (C), Algorithm: Design and Practice (Python, Java and C)

Columbia University, New York, NY **M.A. Candidate May 2019**

Mathematics with a Specialization in the Mathematics of Finance program in Graduate School of Arts and Sciences

MATH RELATED EXPERIENCE

Summer Research Intern, Department of math, Bryn Mawr College, PA **May 2017 – Aug 2017**

- Processed Latin Hypercube Sampling (LHS) scheme and Partial Rank Correlation Coefficient (PRCC) analysis for over 40 parameters in the polycystic ovary syndrome (PCOS) model using Matlab.
- Analyzed the PRCC values by running a significant test in R.
- Found three very sensitive parameters, which will largely influence model results when changed and the PRCC is time-sensitive, possibly altering the conclusions of the global sensitivity analysis.

Teaching Assistant, Bryn Mawr College, PA **Jan 2017 – May 2018**

- Hold question seminar each week to provide assistance with interpreting basic concepts and learning techniques to students in computer science and math core class

Senior Honors Research Thesis: Number Theory **Sept 2017 - May 2018**

- Researched and wrote an honors thesis about extensions on the 13 supercongruences linking partial sums of generalized hypergeometric series to the values of the p-adic gamma function.

INTERNSHIP

Intern, Alpha Squared Capital, CTA Group, Hangzhou, China **Summer 2018**

- Discovered 12 well-performing trading signals utilizing self-studied signal science and past knowledge
- Familiarized with trading systems and performed backtesting on the discovered signals with python

Intern, QiMing Venture Partners, Department of Clean Tech, Shanghai, China **Summer 2016**

- Conducted due diligence on the electric vehicle market by reading company filings
- Co-operated with senior analysts on the third-party industrial data research and analysis using R and Excel; wrote statistical reports to support managers’ strategy making
- Independently analyzed the secondary market performance of over 150 companies in electric vehicle related markets; built predictive models in R for summarizing the characteristics and forecasting future tendency
- Attended the conference which is hosted by the biggest security company in China as company representative.

Di (Kasper) Shi

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EDUCATION

Graduate School of Arts and Science, Columbia University **New York, US**

MA in Mathematics of Finance *September 2018 – December 2019 (expected)*

- Coursework (expected): Statistical Inference/ Time-Series Modeling, Stochastic Processes – Applications, Fixed Income Portfolio Management, Modeling and Trading Derivatives

Faculty of Business and Economics, the University of Hong Kong **Hong Kong**

Bachelor in Economics and Finance *September 2014 – June 2018*

- Major GPA: 3.56/4.3, Ranked as Upper Class, top 10%
- Dean's Honor for academic performance; Scholarship for Outstanding Mainland Students (HKD 280,000)
- Coursework: Introductory Statistics, University Mathematics II, Multivariable Calculus and Linear Algebra, Derivatives, Introductory Econometrics, Equity Valuation and Investment Management, Fixed Income Securities
- Certificates: Stochastic Process (edX), C++ (edX), Differential Equations (edX), Probability Theory (Coursera)

PROFESSIONAL EXPERIENCE

Development Bank of Singapore (DBS) Vickers Securities, Equity Research **Hong Kong**

Equity Research Summer Analyst *July 2018 – August 2018*

- Adjusted and improved the valuation model of a leading Chinese pharmaceutical company to reflect medical innovation as its new major value driver, and updated financial models for healthcare-related companies in A shares and H shares with Bloomberg terminal and Wind during the interim peak season
- Performed a comparative analysis of the growth potential of 18 companies in the healthcare sector based on a series of evaluative dimensions, including research pipeline, capital expenditure, staff cost, management remuneration, etc.
- Developed programs with Python and Excel VBA to extract detailed information of over 10,000 medical products from government websites and to present them in proper format, with the efficiency and accuracy appraised by the research team

AMTD Group, Investment Banking **Hong Kong**

Investment Banking Summer Analyst *July 2017 – August 2017*

- Analyzed and visualized essential financial statistics and drafted slides for the roadshow materials for a USD 500 million bond offering of a leading Chinese private investment group
- Worked on data processing, comparative comps, and relative valuation modeling for internal circulation and potential IPO projects, including the initial public offering of an outstanding Chinese mobile game company
- Assisted the interviews with two World Economic Forum Young Global Leaders and three entrepreneurs in the 2nd AMTD-LendIt Global Fintech Summit, attended by 40 FinTech pioneers and over 200 institutions

China Real Estate Information Corporation, Advisory **Hong Kong**

Financial Research Analyst *July 2016 – August 2016*

- Utilized financial modeling framework to analyze the financing cost, gearing level, and funding gap of 10 major real estate corporations in China
- Coordinated with the research team and produced two monthly reports on the real estate industry, one of which was sold to an asset management firm for HKD 500,000
- Summarized and analyzed the public data of over 30 listed property corporations' interim announcements and led the research team to publish a review and commentary article on WeChat that attracted over 2,000 readers

LEADERSHIP ROLES

The 7th Huawei Financial Elite Competition in the UK Region, *Team Leader* *May 2017*

- Led the competition team to perform an in-depth analysis of the underlying causes of profit decline and evaluate the leveraging risks for a leading Chinese appliance corporation and won the championship

University Business Consulting Club, *Consulting Team Leader* *September 2015 – September 2016*

- Solve PE & VC case for building a resort hotel in Lombok, with final investment decision and possible exit strategies
- Hosted the presentation "Case Study of Boston Chicken Corporation", which attracted over 100 freshmen, and 100% of them followed our WeChat official account and 50% of them joined our club after the event

SKILLS AND OTHER INFORMATION

- Language: Mandarin (native), Cantonese (working proficiency), English (fluent)
- Technical: Python, C++, Matlab, R, VBA, LaTeX, and Bloomberg

YOUNG SIM

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EDUCATION

Columbia University | New York, NY — Expected December 2019

- M.A. in Mathematics of Finance

Skidmore College | Saratoga Springs, NY — May 2017

- B.A. in Economics and Mathematics
  - Honors: Mathematical Association of America Student Award; Weiss Memorial Award in Economics; Alumni Club Scholarship ($35,000/year); Dean's List Honors (8 semesters); Magna Cum Laude
  - Memberships: Phi Beta Kappa; Pi Mu Epsilon (Mathematics); Omicron Delta Epsilon (Economics); Association for Women in Mathematics (Honorary Membership)
  - Overall GPA: 3.89; Economics GPA: 3.94; Math GPA: 3.91

University of Alcalá de Henares: Study Abroad | Alcalá, Spain — January 2016 – May 2016

PROFESSIONAL EXPERIENCE

Research Intern, Korea International Trade Association (KITA) | Seoul, South Korea — June 2016

- Provided overseas market information and trade consulting service to domestic client exporters
- Researched import trends and profitability of foreign importers to ensure successful trade between domestic client exporters and foreign buyers
- Matched domestic client exporters with partner foreign importers based on data collected on their export/import trends and items

Junior Financial Analyst, Patrivalor Asset Management | Madrid, Spain — January 2016 – May 2016

- Designed and implemented data sorting programs using Excel/VBA to update and improve the investment database and the client database in order to automate and streamline analytical reporting process
- Attended meetings with external analysts as well as with top management of publicly quoted companies
- Collaborated with professionals at various levels of the organization to experience asset management at all stages in the investment process including sourcing, researching, and modeling

ACADEMIC PROJECTS

Senior Thesis: *Financial Structure and Economic Growth in Different Country Groups* — September 2016 – May 2017

- Collected and arranged a panel data set of 42 countries from 1996 to 2015
- Analyzed how the financial structure and economic growth are related using the random coefficients model, with focus on how the relationship differs based on a country's development stage
- Thesis selected to be presented at the 19th Skidmore College Annual Academic Festival
- Best Paper Award in Finance Division, the 12th Annual Ted Winnowski Student Conference in Business

Group Project: Economic Advising — September 2015 – December 2015

- Analyzed causes of the Great Recession and the current state of the US economy using economic models and theories
- Evaluated the fiscal and monetary policies during the Great Recession and present using economic models and theories
- Created mock advising report on fiscal and monetary policies for chair of the Fed and the president in a group of 3

LEADERSHIP EXPERIENCE

Student Ambassador, Skidmore College Admissions Office | Saratoga Springs, NY — January 2014 – May 2017

Co-Founder and Mentor, Mentoring Project: The Dream Class | Seongnam-si, South Korea — June 2014 and June 2015

PR Historian, Asian Cultural Awareness (ACA) | Saratoga Springs, NY — January 2014 – May 2014

SKILLS/INTERESTS

- Computer: Java, C/C++, Excel/VBA, MATLAB, STATA, Microsoft Office
- Languages: Korean (fluent); Spanish (intermediate); Mandarin Chinese (basic)
- Interests: dance (ballet, modern, jazz, k-pop); drawing and painting

Yichen Song

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Education

Columbia University — **New York, United States**
M.A. in Mathematics of Finance — *Sep. 2018–Dec. 2019*
- Anticipated Coursework: Statistical Inference/Time-Series Modeling; Stochastic Methods in Finance; Numerical Methods in Finance; Bayesian Models in Machine Learning.

University of California, Berkeley — **Berkeley, United States**
Exchange Student Sponsored by Xi'an Jiaotong University — *Jan. 2016–May. 2016*
- Relevant Coursework: Stochastic Processes; Mathematical Tools for the Physical Sciences; Introduction to Statistics.

Xi'an Jiaotong University — **Xi'an, China**
B.E. in Financial Engineering — *Sep. 2014–Jun. 2018*
- GPA: 87.5/100
- Relevant Coursework: Algorithm and Data Structures; Stochastic Calculus for Finance I: The Binomial Asset Pricing Model; Continuous-Time Models; Time Series Analysis; Financial Big Data Application.

Experience

Highfort Investment — **Shanghai, China**
Quantitative Researcher Intern — *Feb. 2018–June. 2018*
- Conducted sliding window regression, including OLS, Lasso, Ridge, ElasticNet based on time, volume, realized volatility to predict returns with Python on Linux Server, managed to optimize the sliding window size, improved the out of sample R square by 11.6%, from 9.11% to 10.17%;
- Selected features with Principal Component Analysis, Partial Least Square, Lasso, boosted Lasso and Tree from 2590 features, utilized ensemble learning including Bagging and Boosting to improve the algorithms.

Morgan Stanley Capital International — **Beijing, China**
Quantitative Analyst Intern, Applied Risk Management Department — *Aug. 2017–Oct. 2017*
- Calculated the Value at Risk of portfolio consisting of options on relevant stocks by employing Black-Scholes Pricing & Monte Carlo Simulation;
- Applied binomial tree to pricing convertible bond and Least Square Monte Carlo to price American option;
- Reproduced a statistical arbitrage with risk factors extraction model with Principal Component Analysis and hedge strategy with Exchange Traded Funds.

Shaanxi Guantian Capital Management Co., Ltd — **Xi'an, China**
Quantitative Researcher Intern — *June. 2017–Aug. 2017*
- Conducted statistical arbitrage by selecting pairs of futures with ADF unit root test and E-G two steps method, utilized Error Correction Model and GARCH (1,1) to improve the strategy with an annualized return of 33%;
- Measured if the spread is equalized by application of Random Forest to statistical arbitrage.

Projects

Stock Selection with Machine Learning (Python)
Supervised by Professor Jing Sun — *Nov. 2017–Jan. 2018*
- Divided stocks into three clusters, good, bad and common based on past 1 day and 3 days return, calculated and normalized indicators, including RSI, RSV and OBV, of good and bad stocks, selected indicators with high correlation with returns;
- Constituted Decision Tree, Naïve Bayesian, Logistic Regression and Support Vector Machine to select stocks whose price will rise, all with an in sample accuracy of over 86%, compared different methods with ROC curve, AUC and F-score.

Portfolio Optimization (Matlab)
Supervised by Professor Fengmin Xu — *Sep. 2017–Dec. 2017*
- Utilized Genetic Algorithm to select 46 stocks out of 430 to constitute a portfolio, assigning different weight to 46 stocks so the portfolio upward crosses the HS 300 Index every 60 days as much as possible;
- Forecasted whether it would upward cross the HS 300 Index in the following 10 days, with an intersept probability of 81.82%, and adjusted the portfolio every 70 days.

Interdisciplinary Contest in Modeling, Honorable Mention
Smart Growth Metric Model and Cities Planning, Team Leader — *Jan. 2016–Feb. 2016*
- Used Principal Component Analysis and Factor Analysis to extract representative indexes and K-means clustering method to divide cities into two clusters;
- Employed Grey Forecasting Model to forecast smart growth index in 2050.

Skills/Others

Programming skills: Python(including numpy, pandas, sklearn), Matlab

Languages: Native in Mandarin, Proficient in English

Certifications: Deep Learning Specialization (Coursera, Andrew Ng)

Interests: Soccer, Basketball

Liming Sun

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EDUCATION

Columbia University, Department of Mathematics *New York City, NY*
Master of Arts *Sep. 2018 - Dec, 2019*
Mathematics of Finance
Coursework:
Stochastic Processes, Quant & Computational Finance (C++), Statistics Inference, Advanced Data Analysis, Hedge Fund Strategies and Risk Management, Quant Methods in Investment Management

Purdue University, Krannert School of Management, College of Science *West Lafayette, IN*
Bachelor of Science *Dec. 2016*
Triple Major (**Dual Degrees**): Finance, Applied Statistics, Management *Overall GPA: 3.93/4.0*
Graduated with Highest Distinction, Dean's List and Semester Honor for nine consecutive semesters

FRM
CFA Level II Candidate: Passed Level I exam fall 2015
SAS Certified Programmer

PROFESSIONAL EXPERIENCE

HNA Group (Fortune 200 Company) *Haikou, China*
International Talent Program-Senior Financing Specialist *Mar. 2017– May 2018*

- Led and participated in a number of financing activities, including company debt and medium-term note, and accomplished the issuance for six-billion-yuan financing projects
- Participated in the acquisition of Gopay.com, an online payment platform that worth over one billion Chinese yuan, and learned skills in company valuation, risk assessment and business negotiation
- Collaborated with senior management team to help Ingram Micro, a Fortune 200 company under HNA Group, launch a joint venture in China and participated in the restructure of the financial department in the company

Purdue University *West Lafayette, IN*
Krannert Research Assistant *Jun. 2016 – Sep. 2016*

- Utilized SAS and SQL to parse over six million lines of data and conducted data mining and data visualization
- Modeled and interpreted the market trends and customer behaviors to help company make better decisions

Ping An Bank (Fortune 50 Company) *Chengdu, China*
Financial Analyst (Intern) *May 2014 – Aug. 2014*

- Conducted market research to evaluate the potential risks and opportunities in various industries in China
- Performed a series of financial statement analyses to monitor and assess the credit risk of clients

EXTRACURRICULAR ACTIVITIES

Owen Hussar Club *West Lafayette, IN*
Club Activity Director, Senator *Sep. 2014 – May 2016*

- Planed and organized various Hussar activities, including the Super Bowl Night and Valentine's Day Ball
- Monitored club's annual budget and cash flows on behalf of 900 club members to prevent improper usages

Tripda *New York City, NY*
Campus Ambassador *Sep. 2014 – Jan. 2015*

- Led ambassador team to conduct market researches and organized a series of promotion activities accordingly, successfully attracting over 1100 students to register as our new users
- Collaborated with student organizations to raise company's name on campus through various co-organized activities, including case competition, community volunteering activities and regular social events

TECHNICAL SKILLS AND KNOWLEDGE

Languages: Mandarin, English
Software and Programming: Python, SAS, R, SQL, ArcGIS, HTML, Microsoft Office

ZHEN (ZENDA) SUN

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EDUCATION

Columbia University, Graduate School of Arts and Sciences 09/2018 – 2020(E)

- Major: MAFN (Master of Arts in Mathematics with a Specialization in Mathematics of Finance)

University of Illinois at Urbana-Champaign 08/2013 – 05/2017

- Major: Bachelor of Science in Materials Science and Engineering (electronics), Awarded Institutional honors
- Dual Degree Program: Bachelor of Science in Statistics, Awarded the highest departmental distinction
- GPA: 3.75/4.0 (Overall), 3.86/4.0 (Statistics major)

Eckel Scholarship --- Department of Materials Science and Engineering 04/2015, 04/2016
James scholar graduation honors --- College of Engineering & Liberal Arts and Science 2013 – 2017
Dean's list --- College of Engineering & Liberal Arts and Science 2013 – 2015 & 2016 – 2017

INTERNSHIP EXPERIENCES AND ACADEMIC PROJECTS

Bopu Asset, Shenzhen, China --- *Quantitative Research Analyst Intern* 06/2017 – 08/2017

- Wrote programs to retrieve and clean commodity futures data using Python and R; Examined, visualized and performed preliminary time-series analysis on the retrieved data
- Conducted technical analysis and built financial models that remove seasonality effects on agricultural and black commodities to identify signals
- Researched on the relations among hedging pressure, basis and futures excess returns; Analyzed on the relations between turnover rate and net OI changes to determine sentiment of participating parties
- Developed a momentum and a curve model to the final multi-factor trading strategy

China Construction Bank, Shenzhen, China --- *Asset Valuation Intern* 05/2016 – 08/2016

- Validated and cleaned data, and contributed in building portfolio valuation models
- Developed valuation implementations for suspended equity security in R and kept for future uses
- Acquired systematic knowledge of evaluating equities with asset-based multiple and DCF valuation methods
- Collaborated with fellow colleagues to coordinate with Trustees and Trustors

Sport Watch Function Design, **Champaign, IL --- *Team Leader*** 01/2017 – 05/2017

- Examined data recorded by 3-axis accelerator and 3-axis gyroscope incorporated in the sport watch
- Graphed statistical parameters time-series wisely; Extracted 33 features, such as MAD, IQR, from statistics and created a data frame inspired by graphics
- Built models with machine learning techniques, such as decision tree and random forest, to classify18 kinds of sport activities with the data frame
- Achieved 90% accuracy and few-microsecond runtime, meeting clients' demand perfectly
- Arranged meetings with client, allotted jobs to members accordingly, setup internal reminding frameworks to prevent late submission or poor quality of works
- Drafted reports and a final poster; Presented to the senior management team and received positive feedbacks

AXIS Capital Auto Insurance consulting project, Champaign, IL --- *Key Member* 01/2017 – 02/2017

- Collected raw data from various sources including AXIS quarterly reports, analyzed the data with cluster analysis, Time-series analysis and other different methods to help predict the underwriting cycle
- Conducted regression analysis on common macroeconomic and creatively selected variables, such as dispersion of crude oil price and related products like rubbers
- Contributed to weekly reports and presentations, communicated with specialist in AXIS and improved the prediction model

EXTRACURRICULAR ACTIVITIES

Keramos Materials Science and Engineering Honor Society --- *Member* 08/2014 – 05/2017

- Discussing topics about material science and serving as mentor tutoring freshman and new members

OTHER SKILLS

Skills: Microsoft Office *(Excel, Word, PowerPoint),* Python, SAS, R, *CFA level III candidate*
Language: Chinese: *Native*, English: *fluen*t, French: *elementary*
Interests: Cooking, Travelling, Chinese tea, Coffee, and Artifacts collecting

CHRIS TANG

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EDUCATION

COLUMBIA UNIVERSITY *New York, NY*

M.A. in Mathematics of Finance *Dec 2019*

- **Courses:** Statistical Inference/Time-Series Modeling, Stochastic Processes, Stochastic Methods in Finance, Numerical Methods in Finance, Quant Methods in Investment Management, Hedge Fund Strategies and Risk, Multi-Asset Portfolio Management

UNIVERSITY OF MICHIGAN *Ann Arbor, MI*

B.S. in Mathematics & Economics *April 2018*

- **Awards:** James B. Angell Scholar & University Honors & High Distinction
- **Courses:** Linear Algebra, Numerical Analysis, Differential Equations, Theoretical Statistics, Modern Algebra, Mathematical Analysis, Financial Economics, Microeconomic & Macroeconomic Theory, Money and Banking, International Trade Theory, Game Theory, Statistics and Econometrics

EXPERIENCE

GUOLIAN SECURITIES CO., LTD *Shanghai, CN*

Quantitative Consultation Intern *Jul 2018 – Aug 2018*

- Studied intelligent stock analyzing apps of Chinese securities, built an app from finance, news and technological sides
- Tested the effectiveness of PEG, ROE, EPS, GM and EBIT, built a sector-neutral factor for stock picking and achieved an annual return of 22% (alpha of 0.2, sharpe ratio of 1 and information ratio of 2)
- Applied masters' investment strategies to quantitative trading, analyzed alpha, beta, retreat rate and sharpe ratio

SURRICH INTERNATIONAL CO., LTD *Hongkong, CN*

Value Investment Intern *April 2018 – June 2018*

- Researched leading corporation in Chinese catering industry before its IPO, wrote the report and estimated the total market value
- Wrote report of the unicorn Xiaomi in the technology industry for senior investment manager, comparing it with Apple, Amazon and Google to support management's investment decision-making process
- Investigated the largest AMC in China by evaluating the impact of policies and events as well as the structure of debt and asset maturity, advising senior investment manager to wait for at least six months

HUATAI-PINEBRIDGE FUND MANAGEMENT CO., LTD (NO.1 quantitative fund in China) *Shanghai, CN*

Quantitative Research Intern *Jul 2017 – Aug 2017*

- Researched the correlation between main factors (volume, turnover rate, Price-Earnings (PE) Ratio, Relative Strength Index (RSI), Moving Average Convergence Divergence (MACD), and others) and stock market return
- Tested company's proprietary models using minute data and analyzed strategy drawdown in bull and bear markets to improve cumulative return as well as control maximum drawdown
- Built and optimized a multi-factor model using daily and minute stock data, achieving an annual return of over 11% and a Sharpe ratio of over 2

SHANGHAI PUDONG DEVELOPMENT BANK *Shanghai, CN*

Equity Research Intern *Jul 2016 – Aug 2016*

- Studied stock market performance of 5 growth companies by combining fundamental and technical analysis for the asset management team, helping improve investment decisions and seasonal profit
- Computed and analyzed beta coefficients of over 20 stocks for the portfolio optimization process of asset managers
- Collaborated with other 2 interns to investigate financial statements of large corporations in the liquor-making industry and delivered presentations in weekly team meetings

PROJECTS

GAME DEVELOPMENT *Ann Arbor, MI*

Team Leader *Nov 2016 – Dec 2016*

- Led team of 4 to develop a C++ program for the board game Connect 4
- Designed winning strategies for possible conditions using a value network and policy network
- Debugged program and defeated testing Artificial Intelligence on hard mode

SKILLS & INTERESTS

Programming: C/C++, Python, MATLAB, Stata, SQL, Mathematica, Bloomberg, Wande
Languages: Mandarin, Japanese (basic)
Exams: GRE (Verbal-163 + Quantitative-170 + AW-4.5)
Volunteers: Tutored students in Chinese rural area in English and Mathematics
Interests: Go (2-time state championship in China)

Rui Tao (Rachel)

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EDUCATIONAL BACKGROUND

University of International Business and Economics *Aug 2013 - Jul 2017*

Bachelor Degree in CFA, Finance *Beijing, China*

- GPA: 3.72 / 4.00 (Top 6%)
- Honors: Outstanding Student Scholarship(2014), Second-prize Scholarship(2015), Third-prize Scholarship(2014,2016)

INTERNSHIP EXPERIENCE

Galaxy Futures *Jun 2017 - Apr 2018*

Data Analyst Intern, Investment Banking Department *Beijing, China*

- Used R to calculate profit indexes of futures and options; drew charts and wrote analysis reports on clients' portfolios
- Researched the forward quotation of futures and options market; analyzed the trends of the market; summarized the information and then wrote analysis reports to clients
- Based on the original CTA transaction data, calculated profit indexes of CTA, drew figures of net profit
- Calculated the risk indexes of private equity products and then drew graphics to demonstrate the profit & loss, and net profit
- Participated in new issued FOF project, got to learn its operating system
- Made PowerPoint slides for IPO road show and compiled contracts of private equity

China International Capital Corporation (CICC) *Nov 2016 - Dec 2016*

Investment Banking Intern, Traditional Industry Group *Beijing, China*

- Used Wind and Bloomberg to search data for financial analysis; used Excel to design formula to compute financial indexes; wrote financial analysis
- Analyzed the financial conditions of the securities companies based on their annual reports; compared the profitability of different security companies
- Used Bloomberg to analyze the emerging industry (electro-mobile in China)
- Participated in the COSCO Shipping IPO; analyzed its financial data as well as its competitors

China Index Academy *Jul 2015 - Aug 2015*

Data Analyst Intern, Investment Banking Department *Beijing, China*

- Researched institute of real estate, conducted related data collection, collation, analysis and entry work

EXTRACURRICULAR ACTIVITIES

UIBE Big Data International Relationship Center *Sep 2015 - Nov 2016*

Modeling Director, Data Department *Beijing, China*

- (1) Responsible for building models in analyzing and visualizing the national macro data; (2) Used software like Matlab, adjusted and revised the data in the team

Global Entrepreneurial Program in New York *Jul 2014 - Aug 2014*

Market Director, Market Department *New York, America*

- (1)Organized a charity to raise money for an African children' s group; (2)Completed training and designed portfolio focused on Leadership & Wealth Management at Morgan Stanley; Won the 3rd prize in Global Social Entrepreneurship Competition at Morgan Stanley; (3)Took part in the Global Social Entrepreneurship Competition in Harvard University; Won the 3rd prize

SKILLS, CERTIFICATIONS & OTHERS

- **Skills:** Microsoft Office, C++, R, Python, Matlab, Photoshop, Wind, Bloomberg
- **Certifications:** Python Programming in Rice University, Matlab Programming in Vanderbilt University(Coursera Certificate)
- **Languages:** Mandarin, English, Cantonese
- **Activities:** The Mathematical Contest in Modeling in 2015 & 2016(Honorable Mention)

Chenwen WANG

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EDUCATION

Columbia University New York, USA

Master of Mathematics of Finance, Department of Mathematics expected-Dec 2019

- **Courses:** Stochastic Methods in Finance, Time Series, Portfolio Management, Financial Price Analysis, Big Data in Finance, etc.

Sun Yat-sen University (SYSU) Guangzhou, China

Bachelor of Economics, Major in Finance, Lingnan College Aug 2014 - Jul 2018

- **GPA:** 3.96/4.0; **Ranking:** 2/160; **GRE (Quantitative):** 170/170
- **Relevant Courses:** Mathematics Analysis, Probability and Statistics, Linear Algebra, Differential Equations, Real Variable Function and Functional Analysis, Stochastic Process, Multivariate Statistical Analysis, Scientific Computing with MATLAB, etc.
- **Honors:** National Scholarship (Top 1%); SYSU Academic Excellence Scholarship (Top 3%, three consecutive years)

Monash University Melbourne, Australia

Exchange Student, Concentration in Banking and Finance Jul 2016 - Nov 2016

- **GPA:** 4.0/4.0
- **Relevant Courses:** Econometrics, Game Theory, Financial Institutions and Markets, Intermediary Microeconomics

PROFESSIONAL EXPERIENCE

Hefeng Family Office Guangzhou, China

Investment Manager Assistant, Asset Management Department May 2018 - Aug 2018

- Followed macroeconomic heat events and key indicators, wrote weekly and quarterly reports for public and clients
- Constructed quantitative and qualitative models to evaluate ETFs and mutual funds with Bloomberg and MorningStar

China Securities International Beijing, China

Summer Intern, Investment Banking Department Jun 2017 - Sep 2017

- Analyzed, presented and documented drafting elements of ongoing transactions; translated clients' resolutions of board of directors, contracts and annual reports; performed feasibility assessment for Channelsoft's A-share IPO plans and timetables
- Researched, inspected hundreds of listed companies' IPO prospectus, restructuring reports and annual reports; wrote, reviewed and revised IPO prospectus for 2 clients; drafted and revised Capital Operation Proposals for bidding presentations

Legend Investment Guangzhou, China

Investment Analyst, Overseas Investment Division Mar 2017 - Jun 2017

- Researched, organized and analyzed over 10 oversea M&A, PE transactions by studying market competitive landscapes
- Performed DCF valuation analysis, comparable companies analysis and evaluations for investee company's new subsidiary; proposed 3 funding options for potential transactions and drafted business proposals for client presentations

People's Bank of China Beijing, China

Macroeconomics Analyst, Statistics & Analysis Department Nov 2016 - Feb 2017

- Forecasted monthly CPI with statistical models and related economic analysis and forecasting software, such as Eviews, Wind and PBC-X12-ARIMA, reached 100% CPI forecasting accuracy for 4-month time
- Compiled and reviewed 6 documents handed to the Central Bank Governors and took part in the scientific research and manuscript completion, including Official Guide to Econometric Models
- Received conditional return offer and priority consideration in future recruitment process of PBoC

Bank of China Xi'an, China

Summer Intern, Personal / Company Finance Department Jul 2015 - Aug 2015

- Participated in reviewing and underwriting >$10mm consumer and SME lending; gained solid knowledge on application process

RESEARCH EXPERIENCE

Empirical Research on Modern Underground Economy Guangzhou, China

Research Assistant, Advisor: Prof. Nanxin Xia, Lingnan College, Sun Yat-sen University Feb 2017 - Jul 2017

- Constructed and adjusted models to estimate influence of macroeconomic elements on China's Foreign Direct Investment (FDI)
- Parsed doc format data into Excel Spreadsheet database through Excel VBA programming

LEADERSHIP & EXTRACURRICULAR ACTIVITIES

Propaganda Department in Lingnan Student Union & Project Department in English Corner | Minister Jun 2015 - Jun 2017

- Organized and wrote articles online to publicize and summarize college activities and competitions
- Hosted class meetings, activities, competitions and parties for the entire Lingnan College

Safety Inspector in Subway Construction Sites in Beijing, China | Volunteer Jan 2015 - Feb 2017

- Awarded Outstanding Volunteer of Beijing in 2016

SKILLS & INTERESTS

- Programming Languages & Software: C, Excel VBA, Python, MATLAB, VB, Bloomberg, Eviews, SAS, SPSS, SQL
- Other: Mandarin (Native), English (Fluent, TOEFL: 107/120, GRE: 329/340); CFA Level II Candidate

Mengdi (Mandy) Wang

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Email: mw3272@columbia.edu | Tel: (929) 204 2245

EDUCATION

GRADUATE SCHOOL OF ARTS AND SCIENCES, COLUMBIA UNIVERSITY Sep 2018-present

- Master of Arts in Mathematics with a Specialization in the Mathematics of Finance
- Anticipated Coursework: Stochastic Processes, Time Series, Statistical Methods in Finance

SCHOOL OF ECONOMICS, PEKING UNIVERSITY Sep 2014-Jul 2018

- Bachelor in Economics (Finance), GPA: 3.84/4.00 (WES)
- Coursework: Corporate Finance, Financial Risk Management, Theory of Dynamic Optimization
- Honors: Leo KoGuan Scholarship, Award for Merit Student, May 4th Scholarship, Award for Academic Excellent

SCHOOL OF MATHEMATICAL SCIENCES, PEKING UNIVERSITY Sep 2015-Jul 2018

- Bachelor in Science (Mathematics and Applied Mathematics), GPA: 3.55/4.00
- Coursework: Probability Theory, Statistics, Operation Research, Software for Mathematicians

FACULTY OF BUSINESS AND ECONOMICS, THE UNIVERSITY OF HONG KONG Jan 2017-May 2017

- Exchange Student
- Coursework: Investments and Portfolio Analysis, Derivatives, Financial Markets and Institutions
- Honor: Fung Scholar

WORK EXPERIENCE

CITICS SECURITIES

Intern, Research Department Jun 2017-Sep 2017

- **Furniture Industry**
  - Independently conducted an 18-page research report of Chinese housing market's impact on furniture market sales, focusing on 9 leading companies as an example, which is perfectly aligned with reality and successfully predicted the future tendency
  - Established 4 models on furniture corporate income split and earnings forecasts, and completed corresponding equity analysis
  - Monitored daily major issues and news of the Furniture Industry, and composed comments on those to fund managers
- **Electrical Alternative Industry**
  - Researched into the leading techniques, policy and international development; completed research reports on Photovoltaic Industry and Photothermal Industry, specifically analyzed three companies in each domain, which eventually gained buy-in from senior management

CHINA INVESTMENT SECURITIES COMPANY (CISC)

Intern, Fixed Income Aug 2016-Sep 2016

- Analyzed the regulation and procedure of corporate bond issuance and asset-backed securitization
- Sorted required documents of 4 bond issuers; checked the veracity of the information
- Monitored the redemption situation in bonds issued

RENRENDAI. COM

Intern, Product Study Division Jun 2016-Jul 2016

- Drafted weekly predictive reports of macroeconomic and bond market trends
- Conducted research on 8 Internet finance products, regulatory trends and performance prospects
- Shorthanded the contents of morning meetings and transferred into brief reports

ACITIVITIES

ASSOCIATION OF SINO-US EXCHANGE (ASUSE)

Board Chairman May 2015-Dec 2016

- In charge of internal affairs
- Held Welcome Party and activities like DIY Cupcake, prompting old members to rejoin the association

2016 HSBC Mainland China Business Case Competition

Participant Apr 2016

- Participated in contest and workshop as a representative of School of Economics, Peking University

SKILLS

- CFA II candidate
- Skilled in Wind, SAS, EViews, C++(Baruch C++ Programming for Financial Engineering Certificated), MS Office
- Won the champion in the PKU Cup badminton contest as a team member

Suyuan Wang

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EDUCATION

Columbia University in the City of New York **New York, NY**
Master of Arts in Mathematics of Finance Sep. 2018 - Dec. 2019 (expected)

- Core Courses: Time-Series Modelling, Stochastic Processes, Hedge Fund Strategies and Risk

City University of Hong Kong **Hong Kong**
BBA in Finance (Quantitative Finance & Risk Management Stream) Sep. 2014 - Jul. 2018

- Academic: 3.81/4.3 major GPA; Minor in Mathematics (3.88/4.3 minor GPA)
- Honors: HKSAR Government Scholarship Fund - Reaching Out Award, Dean's List (2014 - 2017), International Honor Society Beta Gamma Sigma - Lifetime Membership, Leadership Development Program - Silver Award

University of Wisconsin - Madison **Madison, WI**
Wisconsin School of Business Exchange Program Sep. 2016- Dec. 2016

- Academic: 3.91/4.0 GPA
- Core Courses: Investment Theory, Derivative Securities, Strategic Management, Linear Algebra, Calculus III

WORK EXPERIENCE

Fitch Ratings **Hong Kong**
Summer Intern, Associate Analyst - Structured Finance (SF) Jul. 2018 - Aug. 2018

- Worked with APAC SF Model Officer to consolidate credit enhancement model, incorporating the assumptions for APAC regions
- Assisted in the operational work of the APAC SF team with analysts across the region and attended weekly calls
- Monitored outstanding transactions and reviewed report and committee template paper
- Designed VBA algorithm to produce automatic amortisation schedule for RMBS

Zhongda Futures Co., Ltd. **Hangzhou, China**
Summer Intern, Asset Management Department Jun. 2017 - Aug. 2017

- Worked in the Financial Product Team, assisting in hedge fund and Fund of Fund (FOF) investment management
- Analyzed the performance of 47 funds under 16 strategies, and composed weekly reports on derivatives market
- Wrote Python algorithms for MA and BIAS strategy, and performed backtesting and effect analysis
- Monitored the net position of major commodity futures in the global market offered by the U.S. CFTC
- Conducted regular research and data consolidation on latest IPO stocks, calculated profits for subscription

Industrial Securities Co., Ltd. **Nanjing, China**
Summer Intern, Investment Banking Department Jun. 2016 - Aug. 2016

- Worked in the IPO Project Team, assisted with the due diligence for an e-commerce company
- Responsible for the financial verification for the last three years' selling expenses and corresponding contracts, verified total amount of RMB 120 million

ACADEMIC PROJECTS

Hong Kong Undergraduate Financial Planners of the Year Award 2017 - *Certificate of Merit* Oct. 2017

- Applied wealth management to composing a comprehensive and flexible financial plan for a case involving the investment in Hong Kong and Canada, supported by sufficient data analysis

Algorithmic Trading Feb. 2017 - Apr. 2017

- Under the guidance of Dr. Zhong Zhang, designed algorithmic trading strategies for arbitrage and market making using VBA, which kept showing a positive and growing return in 100 runs of testing in stochastic market
- Designed user-friendly functional trading platform on Excel for monitoring and data collection, performed the presentation, and composed the report for simulative promotion

Deloitte U Shine Case Competition Nov. 2015

- Led a team of four to conduct analysis and compose a business proposal for an aviation industry case

EXTRACURRICULAR ACTIVITIES

City University Chinese Orchestra - *President* Jun. 2015 - Jun. 2016

- Led seventy members for daily operations and organized a Chinese orchestra concert in Hong Kong City Hall
- Helped organize the Taiwan Music Cultural Exchange Tour 2016 for CityU Chinese Orchestra

HSBC Financial Dialogue Series 2016 - *Nominated Participant* Jan. 2016 - Jun. 2016

- Participated in three dialogues along with networking and experience sharing sessions with senior authorities

City University Business Proposal Competition Club (BPCC) - *Academic Officer* Sep. 2015 - Jun. 2016

- Conducted the recruitment of society members and organized Business Proposal Workshop Series

City - Youth Empowerment Project (CYEP) - *Volunteer* Sep. 2014 - Apr. 2017

- Tutored students with special education needs (SEN) every week

ADDITIOANAL INFORMATION

Language: English (TOEFL: 108/120), Mandarin (Native), Cantonese (Conversational)
Certifications and Skills: Passed CFA level I, Proficient in MS Word, Excel, PowerPoint, Eviews, C++, VBA, WIND

Bingwei Wu

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EDUCATION

Peking University Beijing, China 09/2014-07/2018

-- Guanghua School of Management
-- Bachelor of Economics in Finance
-- Relevant Courses: Corporate Finance Management, Higher Mathematics, Linear Algebra, Probability and Statistics, Financial Engineering, Securities Analysis and Investment, etc.

University of San Diego CA, US 09/2011-04/2012

-- Exchange Term (Major: Finance)
-- GPA: 3.92/4.0
-- Focused Courses in Prescriptive Business Analysis, Programming, Financial Statement Analysis
-- 1st Prize Honor (among all exchange students)

Columbia University NY,US 09/2018-12/2019

--major: Mathematics of Finance

PROFESSIONAL EXPERIENCE

Guotai Junan Securities Beijing, China
Industry Researcher, Research Institute 06/2017-08/2017

- Composed an in-depth industry report (40 pages) on household appliance, performed detailed analysis of the industry's past 5 years data and predicted the industry's trend in future 5 years
- Studied the current food and beverage industry, and the emerging intelligent appliance industry
- Edited the bank's industry research template, assisted the edition of monthly journal of industry research
- Acquainted with the SW strategic report system, familiarized with methodologies of industry research, and integrated analysis of various industrial and macroeconomic data

China Securities Beijing, China
Intern 07/2016

- Analyzed six PE funds using PE analytical system, wrote reports and provided investment suggestion
- Composed report about potential influence of the G20 Hangzhou Summit 2016 to the subject market
- Studied the first military project ETF fund and security ETF fund in July, presented analytical result
- Familiarized with the standardized procedure of the company's financial services

RESEARCH

The Influence of Executives' Overseas Experience on Companies' Performance
Research Assistant, Guanghua School of Management 03/2017-07/2017

- Selected 6 major financial indicators (e.g. p/b ratio, ROE, business revenue, etc.) of 1000+ Shenzhen Stock Exchange listed companies, collected their senior executives' demographic information
- Quantified companies' performance and classified large-scale data set collected online
- Acquired advanced techniques of using EXCEL and applied in the actual analysis of data

LEADERSHIP & ACTIVITY

Table Tennis Team, Guanghua School of Management
Team Captain 09/2015-Present

- Was in charge of internal management of the team and organized periodical training
- Led the team to win in friendship tournament with Tsinghua SEM, and the 1rd Prize in PKU tournament

HONOR & AWARD

- 1st Place in Peking University Table Tennis Match, 02/2017
- Meritorious Winner, MCM, 02/2017
- 1st Place in Peking University Business Negotiation Competition, 04/2016
- Award for Social Works, Peking University, 10/2015
- 2nd Class Scholarship of New Student, Peking University, 09/2014
- 7th Place of College Entrance Examination in Liaoning Province, 07/2014

LANGUAGE & SKILL

- **Language:** Chinese (native), English (fluent)
- **Computer:** Java, C++, Python, Microsoft Office

Hongyu (Bill) Wu

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EDUCATION

The Chinese University of Hong Kong, Shenzhen Shenzhen, China Sep. 2014 - Present

- BBA in Economic Science (expected), Major GPA: 3.67/4.00 (3rd year GPA: 3.86)
- Core Coursework: Basic Statistics (A), Calculus for Economics Analysis (A), Calculus (A), Optimization (A), Ordinary Differential Equations (A-), Market Microstructure and Algorithm Trading (A), Advanced Microeconomics (A), Game Theory and Business Strategy (A), Linear Algebra (A), Statistic Inference (A-), Regression Analysis (A-), Time Series Analysis (A-)

University of California, Los Angeles Los Angeles, USA Jun. - Aug. 2015

- Summer School Course on International Finance (A-)

Columbia University, New York New York, USA Aug.2018

Master of Arts in Mathematics with a Specialization in Mathematics of Finance

RESEARCH EXPERIENCE

Shenzhen Big Data Research Academy Shenzhen, China Mar. 2017 - Present

Research Assistant, Low Autocorrelation Sidelobe Sequence Design

- Developed new algorithms in signal processing to enhance the accuracy of filtering and system identification;
- Realized majorization-minimization method through MATLAB to produce sequence sets with least sidelobes of 32*128 radar array: reconstructed the non-convex model by approximating it (through matric calculations) locally to quadratic convex functions, achieved convex optimization with cvx package in MATLAB to seek the local optimal results, repeated until the results converge;

Research Project CUHK(SZ) Jun. - Sep. 2017

MIMO system optimization

- Proposed cogent and detailed research plan on MIMO system optimization;
- Achieved promising results through computer programming simulation.

Research Project CUHK(SZ) Sep. 2016 - Jan. 2017

The influence of Public Attention on Stock Return under extreme market conditions

- Established the model based on Fama-French 3 factors: market return, HML, SMB;
- Utilized the "one-week discussion" index on Xueqiu website as a proxy for public attention factor;
- Retrieved data on stock returns and above controlling variables from Wind website;
- Carried out regression and concluded that public attention is positively related to stock return;
- Selected to present this project in front of Nobel laureate Professor Myron Scholes at CUHK(SZ).

WORK EXPERIENCE

PricewaterhouseCoopers, Los Corporate Tax Shanghai, China Jul. - Aug. 2016

- Engaged in tax consulting projects, researched on laws related to value added tax, and delivered tax issue solutions;
- Researched international trading policies, helped clients enjoy beneficial policies for special economic zone in Hong Kong;
- Conducted tax filing for clients regarding issues on stamp duty, business income tax, individual income tax and value added tax.

CUHK(SZ), Undergraduate Student Teaching Fellow Shenzhen, China Jan. 2018 - Present

AWARDS AND ACHIEVEMENTS

- Half Tuition Waiver (for top 0.1% students in College Entrance Exam) CUHK(SZ) 2014 - Present
- Dean's List Award CUHK(SZ) 2016 - 2017
- First Rank Academic Scholarship (for top 3 students) CUHK(SZ) 2016 - 2017
- Undergraduate Research Award (URA) CUHK(SZ) Sep. 2017
  - Granted to undergraduate students with compelling research projects and remarkable research skills

EXTRACURRICULAR ACTIVITIES

Founder & Director of Financial Department, The University Music Union Oct. 2014 - May 2016

- Planned budget for student activities, assigned and supervised tasks.

Cofounder & Vice President, The University Basketball Club Oct. 2014 - May 2016

- Organized several basketball tournaments and competitions.

SKILLS AND INTERESTS

- Language: Chinese (Native), English (Advanced: Full English teaching, TOEFL 111: R28 L28 S26 W29, GRE 332: V162 Q170 AW3.5)
- Programming & CS skills: **MATLAB** (able to carry out projects), **STATA**, **Python**, **R**, **Gusek**, **EXCEL**, **C++** (Baruch College online course *C++ for financial engineering*), **AI** (Coursera deeplearning.ai course in Deep Learning Specialization)
- Interests: Literatures, Historical Research, Philosophy, Psychology, Movies, Basketball, Music

XIUWEN WU

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EDUCATION BACKGROUND

Columbia University, Graduate School of Arts and Science **New York, NY**

Master of Arts in Mathematics in Finance **09/2018-12/2019(Expected)**

- *Coursework in Progress:* Mathematics in Finance, Time-Series modeling, Stochastics Process, Financial Risk Management & Regulation
- *Future Coursework:* Programming for Quantitative and Computational Finance, Quantitative Methods in Investment Management, Hedge Fund Strategies and Risk, Modeling and trading derivatives, etc

University of California, Los Angeles (UCLA) **Los Angeles, CA**

Bachelor of Science in Financial Actuarial Mathematics **09/2014 – 06/2018**

- *GPA:* 3.83/4.00
- *Selected Courses:* Probability Theory, Analysis, Financial Mathematics, Actuarial Model, Econometrics, etc
- *Qualification: Dean's Honors List, Society of Actuaries (SOA) Exam P & Exam FM*

University of Cambridge **Cambridge ,UK**

ExchangeProgram **07/2017 – 08/2017**

- *GPA:* 3.8/4.00
- *Selected Courses:* Advanced Microeconomic Theory, Industrial Organization, Finance & Quantitative Analysis

EMPLOYMENT HISTORY

Ernst & Young Advisory - Tianjin, China *Financial Risk Management (FRM) Intern* 08/2017 –09/2017

- Received two-week intensive internship training meetings, and reviewed regulatory research papers of both the *China Banking Regulatory Commission (CBRC)* and other sources;
- Participated in the *FRM* project on commercial bank mortgages, developed models and designed methodologies to evaluate default probability and forecasted potential loss rates, and assisted with stress tests under different scenarios;
- Joined systematic *FRM* panel sessions and seminars, cultivated strong networks with mentors in credit and market risk teams, gained in-depth understanding of risk management.

China Bohai Bank, Headquarter – Tianjin, China *Assurance Intern* 07/2016–09/2016

- Received training in both Chinese *GAAP* and *IFRS*, and got acquainted with auditing procedures, developed understanding of financial reporting system and internal controls for risk management;
- Participated in the auditing project on *Tianjin Pharmaceuticals Group (TJPG)*, detected unusual financial statement relationship, researched on accounting standards to determine if entries of financial statements were fairly represented, and supported the team on time management;
- Documented audit procedures and reference work papers, communicated auditing results and issues to managers.

Ernst & Young - Tianjin, China *Summer Business Analyst* 07/2015–09/2015

- Engaged in both design and development of new credit card product aiming at college students, identified challenges in transforming former debit card users and made tactical recommendations for seniors;
- Performed cost-benefit analysis on new credit card products, assessed feasibility and assisted with data analysis to forecast potential subscription and profitability;
- Studied and applied credit risk models including logistic regression models to classify clients based on credit risk aptitudes.

Experience

Data Analysis Research Experience 07/2017-11/2017

- Designed survey questions to compare the customer rating preferences between the E-commercial platforms in US and China (i.e. Amazon and Taobao), analyzed survey results with hypothesis test and probability theories, and proposed new rating mechanism for Taobao based on the survey results.

Project Manager of Student Affairs, *Bruin Actuarial Society (BAS), UCLA* 09/2016-06/2017

- Coordinated between *BAS* and students, arranged career fairs of insurance and actuarial consulting firms, kept members updated with internship and career opportunities.

Volunteer, *Ernst & Young Social Impacts* 08/2015-12/2015

- Participated in activities to improve learning for vulnerable children of migrant workers in Tianjin, and provided direct coaching and support at five local junior high schools where over 70% of students were children of migrant workers.

SKILLS & OTHERS

- **Computer & Statistical skills:** Proficient in Microsoft Office (*Excel, Access),C++,Python*
- **Language Skills:** Mandarin Chinese (Native), English (Fluent), French (1year)

Yunji Wu

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Education

Columbia University, Graduate School of Arts and Sciences ***Expected 2019***

Masters of Arts in Mathematics with specialization in the Mathematics of Finance (MAFN)

Relevant courses: Statistical Inference / Time-Series Modelling, Stochastic Processes – Applications I, Financial Risk Management and Regulation, Capital Markets and Investments, Intro to the Math of Finance

New York University, College of Arts and Science ***Sep 2014 - May 2018***

Bachelor of Arts in Mathematics; Minor in Studio Arts

Cumulative GPA: 3.8/4.0; Math Major GPA: 3.91/4.00

Honors: CAS Presidential Honors Scholars (2015-2018); Dean's List for Academic Year (Fall 2015-2018)

Relevant courses: Mathematics of Finance (e.g. portfolio optimization, option pricing, lognormal dynamics), Mathematical Statistics (e.g. bootstrap, Cramer-Rao inequality), Ordinary Differential Equations, Intro to Math Modeling, Theory of Probability, Numerical Analysis, Foundations of Finance (e.g. portfolio choice, the CAPM, equity valuation), Intro to Macroeconomics, Urban Economics, Data Structures

Research

Undergraduate Research Program at Courant Institute of Mathematical Sciences **New York, NY**

Student Researcher *May 2017 – Oct 2017*

- Researched with Dr. David Kelly on the Heston Model. Investigated how the Heston Model can improve the Black-Scholes Model by fixing its potentially problematic constant-volatility assumption.
- Simulated and performed sensitivity analysis on the Heston Model (and other stochastic processes) in Python. Found alternative methods to simulate data for Heston Model.
- Proposed a method for estimating the correlation coefficient between two Wiener processes of the Heston Model. Evaluated the method for accuracy and modified the method for improvements.

Work Experience

Accrete.AI **New York, NY**

Summer Intern *Jun 2018 —Aug 2018*

- Annotated financial documents for NLP via machine learning using IBM’s Watson Knowledge Studio.
- Assisted with model development projects involving coding and research.

Bank of China **Wuxi, China**

Private Wealth Management Summer Intern *Jun 2016 —Jul 2016*

- Contacted potential clients to introduce financial products such as insurance and structured deposits.
- Learned from managers about financial instruments such as derivatives for hedging and speculation.
- Assisted managers to maintain daily activities. Monitored and reported market trends to managers.

Projects

The Mathematical Contest in Modeling (MCM) **New York, NY**

Jan 2016

- Led a team to solve an optimization problem related to the toll booth’s merging plaza. Proposed different models for the merging plaza for higher efficiency of toll collection and lower accident rate.
- Approached the merging process as a queueing problem; Modeled traffic flow by Poisson and Exponential distributions.
- Achieved Honorable Mention for the contest. (top 15-20%)

Mathematical Statistics Project, New York University **New York, NY**

Feb 2018 – May 2018

- Investigated the 2016 sexual harassment rates in industries with different women workforces and wage levels from data provided by Bureau of Labor Statistics, using Python (Numpy, pandas, Matplotlib).
- Conducted hypothesis tests, performed linear regressions and estimated confidence intervals to determine whether women workforce and wage level have an impact on sexual harassment rate.

Skills & Interests

- Technical: Python (NumPy, Matplotlib, pandas), Java, MATLAB, Lightroom
- Interests: Drawing, Photography (Digital and Analog), Piano, table tennis

YIRAN XIA

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Address: 400 W 113th St, Apt.319, New York, 10025

EDUCATION

Columbia University in The City of New York 08/2018 – 12/2019 (Expected)

- MA in Mathematics of Finance
- **Courses in Progress:** Time Series Modelling, Stochastic Process, Quantitative Methods in Investment Management

The Pennsylvania State University University Park, PA

- Bachelor of Science in Finance 08/2013 – 08/2017
- Bachelor of Science in Mathematics – System Analysis
- **Cumulative GPA: 3.97/4.0 (*Summa Cum Laude)*** Dean's List
- **Core Courses**: Python, Advanced Calculus, Differential Equations, Linear Algebra, Optimization & Game Theory, Probability, Statistics, Stochastic Modeling, Portfolio Management, Advanced Financial Modeling

WORK & RESEARCH EXPERIENCES

Long-term Internship at Dongxing Securities Shanghai, China
Investment Analyst Intern 08/2017 – 03/2018

- Worked on generating Public Sentiment Alpha factors by using Python (Scrapy, Pandas, Numpy, Matplotlib) to scrape and clean data from Xueqiu.com, the largest Chinese UGC investment website.
- Developed a single-period portfolio performance attribution analysis model using Python and PostgreSql to provide references for investment evaluations and future portfolio adjustments.

Summer Internship at Willis Towers Watson Beijing, China
RCS Intern 06/2016 – 07/2016

- Worked on the China Re risk management reform consulting project by taking in-depth research on industry's leading companies' RM structures and CIRC's C-ROSS policy.
- Utilized Excel VBA to assist with auditing and evaluating PICC Life's products' half-year performance.

Summer Internship at ABC. Life Insurance Beijing, China
Asset Management Intern 06/2015 – 08/2015

- Conducted in-depth research on CSRC's IPO policies and investments on funds targeting new shares.
- Accomplished the division's Investment Suggestion Report using Excel in evaluating key statistics of the recommended investments including historical returns, correlation, co-variance and portfolio' standard deviation.
- Assisted with selecting 5 investment projects that all achieved annualized returns at 7% or above.

Summer Math Research Project Beijing, China
Assistant 06/2014 – 08/2014

- Assisted Prof. Xiangzhong Fang from Peking University in researching on quadratic spline fitting of the Lorenz Curve by using pre-written R programming codes.
- Collected Europe's Gini coefficient and generalized results for further references in China's economic inequality.

EXTRA-CURRICULAR ACTIVITIES

Chinese Students and Scholars Association University Park, PA
President 04/2016 – 04/2017
Coordinator of Public Relation Department 04/2014 – 04/2016

- Coordinated with 10 sponsors and raised over $30,000 as sponsorship fee in two years.
- Assisted with and responsible for holding semi-annual galas 8 times with each had over 1,200 audiences attending.
- Accomplished the International Student Transition Process reform project as one of the four student representatives.

SKILLS & QUALIFICATIONS

- **Language**: English (Proficient), Chinese (Native), Korean (Intermediate)
- **Programming**: Python, MS Excel VBA, R
- **Certificates:** CFA Level II Candidate (June 2019)

Weiyi Xiao

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EDUCATOIN

Columbia University, Graduate School of Arts and Sciences — Aug. 2018 – Expected Dec 2019

- *Master of Arts in Mathematics with a Specialization in the Mathematics of Finance*
- Relevant Coursework: Stochastic Process Applications, Time-Series Modeling, Intro to Math of Finance, Quantitative Methods in Investment Management

Emory University, Emory College of Arts and Science — Aug. 2014 – May 2018

- *Bachelor of Science in Applied Math*
- Relevant Coursework: Partial Differential Equations, Probabilities and Statistics, Numerical Analysis, Optimization Theory, Data Structures and Algorithms, Database System
- *Bachelor of Art in Economics*
- Relevant Coursework: Micro & Macroeconomics, Game Theory, Econometrics, Advanced Financial Market

Programming Skills: Java, C++, SQL, PHP, HTML, R, Matlab, Stata, Visio, VBA, Excel

PROFESSIONAL EXPERIENCE

Ping An Bank Co Ltd (SZ: 000001), Investment Banking Department, *Junior Analyst* — Summer 2016

- Participated in 2 IPO programs, 1 bond issuing program and 1 refinance program
- Wrote the development history part and shareholding structure part of prospectuses
- Participated in due diligence, checked the reports and created PowerPoints

Hua Xing Venture Capital Investment, Investment Department, *Junior Analyst* — Summer 2015

- Monitored and made charts to show the use of funds
- Investigated the industry background of a potential program and gave suggestions

Qunsheng Real Estate Company, Marketing Department, *Marketing Agent* — Winter 2015

- Investigated the price level of the real estate market in Fuzhou and created charts
- Analyzed the advantages, disadvantages and market position of the products of the company

RESEARCH & PROJECT

Constructing Model for NYSE 1920's Stocks

- Constructed a price model for NYSE 1920s data. Collected and revised data from 1920's Moody Manual. Fit the data into the model. Examined the significance and autocorrelation of potential factors.

Comparison of CAPM and FF3F Model

- Used R to build CAPM and FF3F models for 1963 to 1993 NYSE data. Created 3D graphs. Compared alphas, t-values on alphas, betas and R-squares. Analyzed predicting performance.

Constructing Portfolio

- Used portfolio optimization theory and minimum variance theory to construct a portfolio of stocks, bonds and options. Tracked the performance for two months. Analyzed the advantages and disadvantages.

LEADERSHIP & EXTRA-CURRICULAR ACTIVITIES

Emory Chinese Student Association, Public Relation Department, *Vice-Minister* — Fall 2014 - Spring 2016

- Designed posters, wrote advertising emails and sent invitation letters for 4 events
- Wrote activities plans and gave presentation to the department of club activities to raise fund

Emory University, Chinese Department, *Supplement Instructor* — Fall 2014 - Spring 2015

- Organized and gave weekly review sessions
- Designed review sheet for students

SKILLS & INTERESTS

Interest: Jogging, Music (Vocal), Drawing

Languages: Chinese, English, Spanish

DUOGENG, XU

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Phone: (646) 704-3466 Email: dx2185@columbia.edu

EDUCATION

Columbia University, Graduate School of Arts and Sciences **New York City, the United States**
MA, Mathematics of Finance *Sep 2018 – Expected Dec 2019*

- **Anticipated Coursework:** Stochastic Process and Applications, Hedge Fund Strategies and Risk, Financial Risk Management and Regulation, Modeling and Trading Derivative, Statistical Inference and Time Series

The Chinese University of Hong Kong **Hong Kong**
Bachelor of Business Administration with Honors, First Class *Aug 2014 – Jun 2018*

- **Concentration:** General Finance, **Minors:** Mathematics, Statistics
- **Cumulative GPA:** 3.6/4.0; **Major GPA:** 3.7/4.0; **Honors:** Honors at Entrance, Talent Development Scholarship, Scholarship for Academic Excellence 2015-16 & 2016-17 & 2017-18, Dean's List 2015-16 & 2016-17
- **Coursework:** ODE, Stochastic Process, Optimization, Probability, Regression, Time Series, Statistical Inference, Data Structure (C++), Options and Futures, Empirical Finance, Corporate Finance, Investment and Portfolio

The University of Texas at Austin **Austin, the United States**
Exchange Student in McCombs School of Business *Aug 2017 – Dec 2017*

- **GPA:** 3.83/4.0; **Coursework:** PDE, Financial Mathematics, Statistical Modeling, Advanced Financial Analysis

PROFESSIONAL EXPERIENCE

Development Bank of Singapore (China) **Shanghai, China**
Summer Intern, Group Strategic Marketing & Communication *Jun 2017- Aug 2017*

- Assisted in transferring customers after acquisition of DaHua Direct Bank; assisted in promotion activities
- Performed macroeconomic analysis to provide privileged clients with advice on investment in the Chinese market
- Prepared and presented reports on industry analysis and market updates during weekly meetings

Bank of East Asia (China) **Shanghai, China**
Commercial Banking Summer Intern *Jul 2016-Sep 2016*

- Co-authored credit asset risk management reports to identify insolvency risk and adviced improvement
- Conducted researches on different industries and over 10 private companies to identify insolvency risk
- Assisted in constructing Access database to manage information and data

Industrial and Commercial Bank of China **Guizhou, China**
Corporate Banking Summer Intern *Jul 2015-Aug 2015*

- Performed financial statements analysis on business profitability and capital structure to provide advice
- Co-authored credit asset risk management reports to offer advice on determining loan approval

TECHNICAL & LANGUAGE SKILLS

- **Certification:** FRM Part I Passed, FRM Part II in Progress, CFA Level I in Progress, IFM Exam in Progress
- **Programming:** R & C++; **Language:** Chinese (Native), English (Fluent), TOEFL: 108
- **Research tools:** Bloomberg, Factset, Reuters; **Microsoft Office:** Word, Excel, PowerPoint, Outlook, Access

ACADEMIC PROJECT

Empirical Finance Project, *the Chinese University of Hong Kong* *Jan 2018 – May 2018*

- Researched 10 mutual funds in U.S. by VaR models, normal testing, serial correlation testing and tested CERM, SIM, CAPM, FF3F models by sample data
- Constructed mean-variance portfolio with different constraints by R
- Constructed financial forecasting by ARMA models in Rand developed ordered univariate trading strategy

EXTRA-CURRICULAR ACTIVITIES

JP Morgan Asset Management Case Competition (Twice) **Hong Kong**
Participant *Dec 2015 – Mar 2016 & Feb 2017 – Mar 2017*

- Conducted researches on stock performance and macroeconomics to constructed optimal stock portfolio
- Utilized R to construct efficient frontier and portfolio optimization through mean-variance approach

Free Gallery **Hong Kong**
Treasurer *Oct 2015 – Jun 2016*

- Recorded cash flow and wrote balance sheet for club capital, organized workshop and photo competition
- Achieved the net profit about HK$3,000 by selling postcard and achieved 50% profit margin

Duo Xu

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EDUCATION

Columbia University, Graduate School of Arts and Sciences New York, NY

MA in Mathematics of Finance 12.2019

- **Coursework:** Stochastic Process and Applications, Statistical Inference/Time Series Modeling, Hedge Funds Strategies and Risk, Introduction to the Math of Finance

Lehigh University, PA

BS in Applied Mathematics & BS in Finance (dual degree) GPA: 3.82/4.0 (1 out of 60) 05.2018

- **Mathematics Courses:** Probability and Statistics, Stochastic Processes, Data Analysis, Linear Algebra, Multivariate Calculus, Principles of Analysis, Complex Variables
- **Finance Courses:** Investment, Corporate Finance, Value Based Decision making, Financial Accounting, Money, Banking, and Financial Markets, Marketing, Applied Microeconomic Analysis
- **Awards:** Highest Honor & Dean's List every semester

WORK EXPERIENCES

SINOLINK YONG FU (FOF/Fund of Funds) | Quantitative Fund Intern | Shanghai 06.2018-08.2018

- Built program for automatic Brinson Attribution Analysis and Risk-Return Analysis under R studio
  - Result: operation speed 100 times faster than the original Excel version
  - Detected and corrected design defect of the original version (missing non-trading days' return for money fund)
  - Dataset visualization to HTML and customized UI under Shiny package (R Studio)
  - Automatic mail-warning when one portfolio has cumulative drawdown over 5%
- Built the Multi-Factor fund selection model for the company with R studio and SQL server
  - Applied Treynor &Mazuy model and linear regression for analyzing "selection" and "timing" ability
  - Combined selection and timing ability with other factors to rank each fund
- Utilized Python (Pandas) to realize Markowitz Mean-Variance Model for industry allocation
  - Applied initial model from stock allocation to general asset or industry allocation
  - Upgraded to Black-Litterman model by adding moving average of mainstream ranking institutions' consistent expectations

People's Bank of China | Department of Open Market Operations | Data Analyst Intern | Shanghai 06.2016-07.2016

- Customized financial dataset of Eurozone from Bloomberg and Thomson Reuters database according to Goldman Sachs' Economic Indicators Analysis Report
- Conducted Data Cleaning, Data QA & QC
- Employed linear regression and R-squared test for investigating the statistical correlation among economic indicators under MATLAB
- Designed Holt-Winters time series model for the dataset to predict the trend of Eurozone Economy under R

PROJECT EXPERIENCE

MCM/ICM Math Modeling Contest | Second Prize | Team Leader | Lehigh University 09.2017-12.2017

- Optimizing the Passenger Throughput at Airport Security Checkpoints
- Employed queuing theory and M/M/C/∞/∞ model to identify the bottlenecks limiting the efficiency of passengers passing an airport security checkpoint
- Quantified steady-state probability, labeled probability density, and average token counts in place to maximize passenger throughput without increasing waiting time in different queues
- Customized optimization strategy for passengers with different cultures

SKILLS, AWARDS, ACTIVITIES

- Computer skills: Python, C++, Java, R, MATLAB, SQL, MySQL
- Languages: English(fluent), Japanese(fluent), Chinese(native)
- Award: LVAIC Math Competition | Second Prize | Team Leader | Lafayette College
- Interests: Cooking, Soccer, Poker, Photography

QINGFENG XU

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Education

Columbia University in the City of New York New York, NY
MA in Mathematics of Finance Sept 2018 – May 2019 (Expected)

- Coursework: Stochastic Processes and Applications, Hedge Funds Strategies and Risk, Programming for Quantitative and Computational Finance

The University of Hong Kong Hong Kong
BS in Statistics and Economics, GPA: 3.76/4.3 (First Class Honours) Sept 2012 – Dec 2016

- Coursework: Probability Modeling, Statistical Inference, Time-series Analysis, Data Mining, Numerical Methods, Linear Algebra, Corporate Finance, Microeconomics, Macroeconomics
- Awards: Patrick S C Poon Scholarship in Statistics and Risk Management (2016)

University of California, Berkeley Berkeley, CA
Exchange Study, GPA: 4.0/4.0 Aug 2014 – Dec 2014

- Coursework: Financial Economics, Structure and Interpretation of Computer Programs, Multivariable Calculus, Linear Modeling

Professional Experience

Société Générale Corporate & Investment Banking Hong Kong
Trainee, Financial Engineering (Fixed Income Derivatives Pricing) Feb 2017 – Jun 2018

- Provided daily pricings and responded to sales inquiries on various rates, FX, credit, and hybrid derivative products such as steepeners, reverse convertibles, autocallables, digitals, range accruals, baskets, and credit-linked notes
- Built pricers with VBA to analyze new product ideas; liaised with sales and traders for product push
- Streamlined workflows through enhancement of an automated pricing / execution platform and construction of pricing and back-solving templates
- Developed a Python-based tool to track the trends of client flows and interests on different structures

Credit Suisse Hong Kong
Intern, Equity Derivatives Structuring Jan 2016 – Jul 2016

- Conducted daily valuations for structured funds; collaborated with sales, trading and middle office to handle valuation issues, particularly during periods of fund rebalance and on dates for corporate actions
- Produced monthly performance attribution reports for existing structured funds
- Prepared marketing materials for structured solutions based on backtest results as well as macroeconomic and product-specific research

Everbright Securities Shanghai, China
Intern, Equity Research Jun 2015 – Aug 2015

- Assisted to complete an equity research report for a listed building industry company in China
- Refined a macroeconomic database intended for industry analysis with Excel VBA and Wind

Academic Projects

Copulas in Risk Management, *The University of Hong Kong* Sep 2016 – Dec 2016

- Studied the use and implementation of copula methods in modeling dependence structures for credit derivatives such as collateralized debt obligations (CDO) and basket default swaps (BDS)
- Performed simulations in R to study the consequences of modelling stock returns with different copula models (Gaussian, Student's t, etc.)

Skills

- Programming / Analytics: Python, Excel VBA, R, SAS, Stata; Bloomberg, Wind
- Language: Fluent in English, Mandarin (Native) and Cantonese

Chengye Yang

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(929) 310-8263 cy2519@columbia.edu

EDUCATION

Columbia University, Graduate School of Arts and Sciences, New York, USA Sep 2018 – Dec 2019
Candidate for Master of Arts in Mathematics of Finance

- Relevant Coursework: Introduction to the Math of Finance, Statistical Inference / Time-Series Modeling, Stochastic Processes, Hedge Funds Strategies and Risk, Fixed Income Portfolio Management

Tsinghua University, Department of Mathematic Science, Beijing, China Sep 2013 – Jul 2017
Bachelor of Science in Mathematics and Applied Mathematics

- Honors: Mathematical Olympiad Gold Medal (0.01%), Social Work Scholarship (1%)
- Relevant Coursework: Probability, Real Analysis, Partial Differential Equation, Numerical Analysis, Programming in C++, Data Structures and Algorithms, Introduction to Financial Engineering

PROFESSIONAL EXPERIENCE

City University of Hong Kong | Hong Kong / Shenzhen, China Aug 2017 – Aug 2018
Research Assistant

- Collected a factor pool of over 400 alpha factors, including momentum factors, reversal factors, technical indicators, value factors, growth factors and sentiment factors
- Developed alpha model trading strategies with Information Ratio over 3.0. Used machine learning algorithms such as Adaboost, Random Forest and Artificial Neural Network to forecast stock returns
- Constructed a daily-update stock trading simulation system on Python, which automatically downloaded data from api, calculated strategies, backtested strategies and compiled reports in PDFs
- Conducted researches on mitigating the impact of price limit to portfolio performance, and implementing Barra risk model on China Stock Market

Bitpower Information Technology | Beijing, China Sep 2016 – Dec 2016
Quantitative Analyst Intern

- Implemented over 40 quantitative strategies on Matlab, which varies from trend flowing strategies, intraday trading strategies, stat-arb strategies to multiple-factor stock selection strategies
- Promoted corporations between Bitpower and Tsinghua University. Made "Atrader", a quantitative strategy research platform, the teaching software for Tsinghua Financial Engineering Laboratory

Ikuanriver Funds Management | Beijing, China Feb 2016 – May 2016
Quantitative Analyst Intern

- Developed several quantitative timing strategies on commodity futures, one strategy which based on Donchian Channel and SAR was adopted in real trading, with Sharp Ratio over 1.5 and annualized rate of return over 18%

CITICS Securities | Beijing, China Jan 2015 – Mar 2015
Quantitative Analyst Intern

- Conducted a research on arbitrage strategy between A tranche and B tranche of structured fund in China

ACADEMIC PROJECT

Quantitative Strategy Based on Periodicity of Commodity Futures | Tsinghua University Feb 2017 – Jun 2017

- Applied spectrum analysis on over twenty commodity futures in China. Examined the existence of periodicity and obtained their principal periods and secondary periods
- Made forecasts and developed quantitative strategies based on resonance of different commodity futures

SKILLS AND INTERESTS

Language: Chinese (Native); English (Proficiency) **Programming:** Python, C++, Matlab, R
Interests: Badminton (Team Captain), Go(Amateur 3 dan), Three years of investing experience in China Stock Market

Jianing (Jenny) Zhai

414 West 121th Street, Apt 38, New York, NY10027 | zhai.jianing@columbia.edu | (929)319-9315

EDUCATION

COLUMBIA UNIVERSITY **New York**
Master of Arts in Mathematics of Finance Sep 2018 - Dec 2019 (expected)

- Anticipated Coursework: Non-linear Option Pricing, Machine Learning, Hedge Fund Strategies and Risk, Programming for Quantitative & Computational Finance, Financial Risk Management

RENMIN UNIVERSITY OF CHINA **Beijing**
Bachelor of Economics Sep 2014 - Jul 2018

- GPA: 3.71/4.00
- Awards: President's Scholarship, Samsung Scholarship, Outstanding Academic Performance Scholarship
- Relevant Coursework: Higher Algebra, Mathematical Analysis, Differential Equations, Probability Theory, Statistics, Stochastic Process, Dynamic Optimization, Corporate Finance, Accounting, Microeconometrics

COLUMBIA UNIVERSITY **New York**
Visiting Student Sep 2016 - May 2017

- GPA: 3.925/4.33 (A+)
- Coursework: Numerical Methods in Finance, Introduction to Econometrics, Econometrics of Time Series, Data Structure in C++, Introduction to Modern Analysis II, Security Analysis, Game Theory
- RA to Professor Montiel Olea: researched on linear projection instrumental variable and structural vector autoregressive instrumental variable models to identify the impulse response to structural shocks using MATLAB and Stata
- Academic Projects: applied PDE and Monte-Carlo methods to option pricing (Python); interpolated a volatility smile by delta using polynomials and cubic splines (VBA); solved for implied volatility through Newton-Raphson, Regula-Falsi and Secant methods (VBA)

PROFESSIONAL EXPERIENCE

CITIC SECURITIES **Beijing**
Summer Intern, Custody Department Jun 2018 - Aug 2018

- Developed a multi-factor model to forecast risk and measure portfolio performance for funds in Python
- Established and maintained various factors and summary tables on an Oracle database

CHINA RE ASSET MANAGEMENT **Beijing**
Quantitative Analyst Intern Sep 2017 - Mar 2018

- Expanded the factor library of Wind database and improved the existing factors through ICIR and PCA
- Constructed a regression-based stock selection model in Python; applied ARMA, EMA and HP filter to factor yields prediction; built a Brinson performance attribution model to analyze the portfolios
- Participated in the development of a stock scoring model using genetic algorithm in Python
- Researched on the Barra risk model, constructed the 10 style factors in the Barra CNE5 notes, and built a portfolio optimizer in Python
- Developed a function to measure the market impact cost in the A share market

ABC TECHNOLOGY **Beijing**
Financial Analyst Intern Jul 2017 - Sep 2017

- Modified an event-driven quantitative strategy by converting MATLAB codes into Python; developed programs to crawl, analyze and input data to a MySQL database; the strategy was adopted by the team as maintenance of its low frequency trading business
- Constructed financial models and estimated quarterly revenue for some A shares with high accuracy
- Produced a variety of marketing materials in English for road shows and external promotions

YINGDA INTERNATIONAL TRUST **Beijing**
Summer Intern, Trust Business Department Aug 2016 - Sep 2016

- Participated in conducting due diligence of 2 real estate trust projects by collecting data and analyzing financial statements

AXA **Hong Kong**
Winter Intern, ZH Business School Jan 2016

- Led a group in an asset management competition with 19 other groups; applied financial models and VBA skills to constructing a simple hedge fund; the group ranked 4th in the competition

ADDITIONAL INFORMATION

- **Programming Skills:** Python, C++, MATLAB, VBA, Stata, SPSS
- **Interests:** traveling, baking, reading
- **Tutor of One-to-one Tutoring Columbia University (2016)** Tutored a primary school student weekly

Qixiao ZHANG, Diana

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Education

Columbia University NY, USA

M.A. in Mathematics of Finance Sep. 2018-Dec. 2019

- Courses: Stat Inference / Time-Series Modelling, Stochastic Processes, Hedge Fund Strategies & Risk, Asset Management

The Chinese University of Hong Kong (CUHK) Hong Kong

B.Sc. in Quantitative Finance *Minor in Mathematics & Statistics* GPA: 3.53/4.0 (WES:3.75/4.0) Sep. 2014-Jul. 2018

- Courses: Investment & Portfolio Mgt, Derivatives, Fixed Income, Fin. Markets, Fin. Math, Algo Trading, Fin. Statement Analysis, Corporate Finance, Diff Equations, Risk Mgt, Probability, Numerical Analysis, Linear Algebra, Calculus, Econ
- Awards: Talent Development Scholarship (HKSAR), Master's List, Morningside Academic Scholarship (every year)

University of Michigan, Ann Arbor MI, USA

Exchange Student in Ross School of Business Jan. 2017-Apr. 2017

Professional Experience

China Renaissance - Huajing Securities Beijing, China

Intern, Investment Banking Division Jun. 2017-Aug. 2017

- Presented a 107-page medical industry analysis by examining the whole industry and sub-industries, including analysis of trend, potential area and key companies as well as investment plan, being served as company's internal guide
- Promoted a listed pharmaceutical company's strategic investment project and collaborated to optimize cooperation plan
- Prepared pitch materials on several projects, including TMT and medical industry
- Analyzed past equity carve-out cases in Chinese A-share market and analyzed the feasibility of equity carve-out for customer

Capital Securities Co., Ltd. Beijing, China

Intern, Risk Management Position, Compliance Department Jun.2016-Jul. 2016

- Conducted stress test and sensitivity analysis for companies' portfolio - set mild and severe scenarios according to historical market performance and quantified portfolio loss in each situation
- Forecasted and monitored company's portfolio risk, prepared daily and monthly risk report for the company
- Adjusted margin collateral conversion rate qualitatively and quantitatively every week and sorted out risky assets
- Reviewed investors' applications of pledge of stock rights and assessed the risk for different cases

The Export-Import Bank of China Beijing, China

Intern, Corporate Business Department Jul. 2015

- Finished credit rating for two large state-owned enterprises by analyzing their financial statements and case reports

Leadership and Extracurricular Activities

Mainland Undergraduate Association (MUA), CUHK, *External Vice President* May. 2015-Apr. 2016

- Negotiated with sponsors and obtained HKD 107,500 sponsorship for the association
- Organized MUA Orientation Camp for 320 mainland freshmen for 8 days, especially in charge of 3 large activities
- Presided Inauguration Ceremony and invited representatives from over 30 associations in 12 universities

One-Era Press, CUHK, *Treasurer and Secretary* Oct.2014-Jan. 2016

- Budgeted for all activities, developed financial strategies; organized Micro Love Letter Competition with 14 universities

Fujia (Voluntary Service Organization), *Program-Developing Executive Officer* Sep. 2014-Jun. 2015

- Led volunteer activities to enrich lives of migrant children in Shenzhen and gave them warm company

Weiming Economic Club, The High School of Peking University, *Founder and President* Sep, 2012- Jul, 2013

- Initiated this club; held economic and financial forums; organized Business Strategy Competition with Microsoft

Skills and Interests

- **Language skills:** Mandarin (Native), English (Fluent), Cantonese (Fluent); TOEFL: R28+L27+S27+W29
- **Computer skills:** Word, PowerPoint, Excel, Power BI, Bloomberg, Wind Financial Terminal, C++, etc.
- **Others:** CFA Level I passed; GRE Quantitative: 170/170
- **Interests:** Tae Kwon Do (Red Belt), Chorus (First Prize of Beijing Choral Performance), Travelling, etc.

Mikaela (Xinwen) Zhang

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EDUCATION

Columbia University, New York, NY **Expected December 2019**

Master in Mathematics of Finance

- Coursework: Times-series Analysis, Numerical Methods, Intro to Math Finance, Risk Management and Regulation, etc
- TAship: Modern Data Structure for 2018 Fall Term

University of Toronto, Toronto, Canada **May 2018**

Specialist in Finance and Economics, Double Minors in Math and Statistics

- GPA: 3.7/4.0; Honorable Mention in Interdisciplinary Contest in Modeling (ICM) 2016 and 2017
- Coursework: Stochastic Processes, Options and Futures, Fixed-Income Securities, Econometrics,

Industry Certifications

- FRM Part II passed, May 2017; CFA Level I passed, Dec 2017; Bloomberg Market Concept Certificate, Aug 2018

SKILLS

Technical: Python, SQL, Matlab, R, Stata, VBA, Tableau, Microsoft Azure, Bloomberg

EXPERIENCE

Derivatives Quantitative Research Student, *Ontario Securities Commission*, Toronto, Canada **May 2018 – Aug 2018**

- Led liquidity analysis project for OTC derivatives market in North America based on data with over 30 million entries and 565 features; analyzed market liquidity change after Dodd-Frank Act by visualizing time-series data in Tableau
- Automated the process of data cleaning and outlier detection modeling, which significantly improved the efficiency of the data manipulation steps before more advanced analytics
- Optimized thresholds for Margin Rule and Clearing Rule from a policy-making perspective by leveraging Principal Component Analysis and K-Means Clustering method
- Initiated DV01 Risk Metric to calculate the market risk transfer of Interest Rate Swaps and achieved a higher accuracy of 70% compared with notional amount; automated monthly updates in VBA

Prime Brokerage Intern, *CITIC Securities*, Beijing, China **May 2017 – Jun 2017**

- Priced and executed structured products of different underlying asset classes (Gold, ETFs, futures) to satisfy needs of institutional clients, such as hedge funds and PE firms
- Modeled future price movements and estimated the cumulative PnL of portfolio by conducting Monte Carlo Simulations daily; adjusted hedging strategies promptly to minimize risks under stressed market conditions
- Performed scenario analysis to evaluate clients' qualifications for financing and securities lending business by measuring the associated credit and market risks
- Calculated risk measures in the risk control supervision statement issued by China Securities Regulation Commission
- Facilitated sale of Total Return Swaps and OTC derivatives; analyzed impact of regulatory changes on fund managers

PROJECTS

Financial Data Case Competition (team of 4), *University of Toronto* **Mar 2018**

- Awarded Second Place by industry professionals after analyzing reasons for high default probability and giving recommendations on credit card issuing mechanism
- Achieved 95% accuracy in default probability prediction using Decision Tree Regression and Decision Jungle models

VIX and VXO Comparison from Financial Econometrics Perspective, *Department of Economics* **Nov 2018**

- Interpreted the statistical inferences and probability distribution of VIX and VXO using linear regression in R
- Applied static and rolling methods to measure financial risks in the daily return of VIX using VaR and Expected Shortfall
- Estimated multiple time series models of VIX and predicted its movements; discussed portfolio management strategies using VIX and VVIX

Market-Making Trading Strategies in VBA and Matlab, *Rotman School of Management* **Mar 2017**

- Automated a trading algorithm to capture dynamic bid-ask spreads by continuously submitting and canceling limit and market orders; ranked 1st place among more than 100 participants in total
- Generated consistent returns under different price paths while controlling inventory, execution and market risks

ACTIVITIES/INTERESTS

Sports: soccer, skiing, swimming; professional associations: PRIMA, GARP, IAQF

Xinyun Zhang

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EDUCATION

Columbia University, Graduate School of Arts and Science — New York, NY
MA in Mathematics of Finance — Expected Dec 2019
Relevant Coursework: Mathematics of Finance, Statistical Inference/Time-Series Modelling, Stochastic Processes-Applications, Financial Risk Management & Regulation, Capital Markets and Investments

University of California at Berkeley, College of Letters & Science — Berkeley, CA
BA in Economics and Statistics; GPA: 3.85/4.0 — May 2018
Honors: High Distinction in General Scholarship; High Honors in Economics; Phi Beta Kappa
Relevant Coursework: Financial Economics, Econometrics, Probability, Statistics, Time Series, Stochastic Processes, Machine Learning, Linear Modelling, Partial Differential Equations, Accounting, Programming in R/Python/Java

EXPERIENCE

Greenwoods Asset Management Co., Ltd. — Shanghai, China
Rotational Intern, Investment Research, Marketing, and Finance Department — June 2018-Aug 2018

- Conducted in-depth research on media industry and automotive battery industry; composed reports for 2 leading firms in each industry through compiling essential information and generating investment suggestions
- Prepared marketing slides on investment funds, market trends, macroeconomic conditions, and investment merits and risks
- Collected funds data from online investment platforms; assessed the performance and market position of Greenwoods' funds
- Collaborated with colleagues on reimbursement management and operated the corporation's accounting system

China Development Bank Capital Co., Ltd. — Beijing, China
Intern, Risk Management Division — July 2016-Aug 2016

- Reviewed the semiannual post-investment reports and conducted investment performance analysis on target companies
- Evaluated operational risks of target companies and worked out strategic solutions for companies with high risks
- Studied 20+ Chinese/English bilingual papers with specialization in bank reserves and wrote a 1000-word summary report on provisioning policies
- Drafted due diligence checklists for four target companies to inform them prepare supporting documents in advance

RESEARCH EXPERIENCE

University of California, Berkeley — Berkeley, CA
Research Assistant, Institutional Memory Project — Sep 2015-May 2018

- Collected 30+ commercial banks' financial data based on 1928-1980 Moody's Manual to prepare for further analysis
- Examined historical data of bank directors, using R/Python to trace every director's working periods in corresponding banks
- Pinpointed strategic solutions for building models to evaluate the impacts of directors' experience on banks' performance
- Proposed constructive suggestions during weekly team meetings to formalize and improve the standards of research process

LEADERSHIP & ACTIVITIES

Vice President, **Omicron Delta Epsilon Economics Honor Society**, UC Berkeley — Aug 2017-May 2018
Volunteer Mentor, **Build Literacy of UCB Public Service Center**, UC Berkeley — May 2014-May 2015

SKILLS

Technical Skills: Python, Java, R, MATLAB, Stata, SQL, MS Excel, Bloomberg, LaTex
Languages: Mandarin (native), Korean (elementary)

Yufei Zhang

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EDUCATION

Columbia University New York, NY, USA
M.A. in Mathematics of Finance (Mathematics with a Specialization in Mathematics of Finance) 09/2018-12/2019
Relevant Courses: *Statistical Inference / Time-Series Modelling, Stochastic Processes – Applications, Stochastic Methods in Finance, Numerical Methods in Finance, Financial Risk Management and Regulation, Programming for quantitative & Computational Finance (Python), Fixed Income Portfolio Management, Hedge Funds Strategies and Risk*

Huazhong University of Science & Technology (HUST) Wuhan, Hubei, China
B.S. in Economics (Innovative Undergraduate Program for Advanced Economics Education- Quant Track) 09/2014-06/2018
GPA: 3.91/4.0 GRE: V162 Q170 AW4.0

PROGRAM

Stanford University & HUST Stanford, CA, USA
Innovation and Entrepreneurship Summer-seminar Program (Top 1% in selectivity) 08/2017

Oxford Brookes University & ACCA Oxford, England, UK
BSc (Hons) in Applied Accounting degree with First Class Honors (Assessed in English) 09/2015-09/2017

ACCA Global, Headquarter in UK
Passed 12/14 courses required for ACCA Qualification; Advanced Diploma in Accounting and Business 10/2014-03/2018

TECHNICAL PROFICIENCIES

Proficient in C++, R, Python; Familiar with SQL, Stata, MATLAB; China Computer Rank Exam: Distinction in C++ Level II

ACADEMIC PROJECTS

The Impact of Social Networks on Self-employment - an Empirical Analysis based on CFPS Data *03/2017-06/2017*

- Installed China Family Panel Studies (CFPS) Data into R; Applied PCA to descend dimension of data to extract main factors
- Derived the Relationship Index (RI) to quantify social networks of families and applied econometric models to depict partial effects of main factors (including RI) and described issues like the differences between urban and rural areas

Asset Allocation Strategy Based on Penalized Quantile Regression *05/2016-12/2016*

- Integrated knowledge in mathematical analysis, financial risk management, Markowitz's Portfolio Theory, and Statistics
- Carried out quantile regression; Performed simulated-revenue analysis and risk-return tradeoff analysis of multi-assets, and compared yield rate series under different statistical distributions
- Added penalty parameters and regular expression to the above model to optimize the allocation of high-dimensional cross-sector assets according to investment sparsity, and validated the model via simulated and real data

PROFESSIONAL EXPERIENCE

Soochow Securities (Headquarter) Soochow, Jiangsu, China
Investment Banking Department, Full-time Summer Intern 07/2017-08/2017

- Participated in IPO for Cybrid Technologies, an international polymer materials manufacturer for the global solar industry
- Independently performed financial analysis using excel; Examined original papers and modified several mathematical errors
- Conducted non-financial business research about internal control, Photo-voltaic industry, and relevant laws and regulations

AXA China Region Insurance Co (Bermuda) Ltd Hong Kong, China
Undergraduate Student Trainee Program 08/2016

- Studied fund management, financial investment, and popular financial products to be familiar with the Asia-Pacific Market
- Constructed a wealth management plan with existing financial products through SWOT analysis and PEST analysis
- Led a team of 7 interns and obtained the Championship among all the intern teams according to our outstanding performance

Bank of China (Yujiashan Branch) Wuhan, Hubei, China
Customer Manager 10/2015-12/2015

- Accumulated knowledge in wealth management and financial products and provided customized suggestions to clients

ACHIEVEMENTS/AWARDS

- *2018 Outstanding Graduate of HUST , graduated as an honor student of the Innovative Undergraduate Program 06/2018*
- the Outstanding Undergraduates in Academic Excellence (the greatest honor for HUST undergraduates, Top 1%) *12/2016*
- National Endeavor Scholarship (Top 3%), Twice *10/2016 & 10/2017*
- 2nd Prize of the Undergraduate Student Mathematical Modeling Invitation Contest in Central China (Top 0.86%) *05/2016*
- China National Scholarship (Top 0.2%) *11/2015*

LEADERSHIP AND VOLUNTEER EXPERIENCES

Long-term Volunteers Responsibilities *10/2014-06/2018*

- Persistently served in Library of Hubei Province and Luguang Community Volunteer Group

HUST Student Union Vice President *09/2015-09/2017*

- Independently arranged varied activities in art and sports; Acted as the track & field team leader of the School of Economics in recruitment, training, and led the school's team win the gold medal in women's team and the silver medal in men's team

YIFEI ZHAO

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EDUCATION

Columbia University **New York, NY**
M.A. in Mathematics of Finance 09/2018 – 12/2019
- **Expected Coursework**: Stochastic Process, Advanced Data Science, Programming for Quantitative Finance, Numerical Methods, Financial Risk Management, Time-Series Modeling, Financial Modeling and Derivative Trading

Peking University **Beijing, China**
B.A. in Economics and B.A. in Sociology 09/2014 – 07/2018
- **GPA**: 3.9/4.0 in Economics & 3.7/4.0 in Sociology
- **Summer Student Exchange Program**: Columbia University, Summer 2016, GPA: 4.0/4.0
- **Award**: First Class Award, China Economy Research Scholarship (Top 1%)
- **Coursework**: Mathematical Methods in Finance, Financial Econometrics, Probability and Statistics, Statistical Inference, Financial Modeling, Computer Applications (Java), Ordinary Differential Equations, Analytical Techniques of Data
- **Online Certificate**: C++ Programming for Financial Engineering (Completed with Distinction), Machine Learning, Python Data Structures, Using Python to Access Web Data, Using Databases with Python, VBA for Creative Problem Solving

EXPERIENCE

CreditSpectrum Corp **New York, NY**
ABS Quantitative Analyst Intern 08/2018 – Present
- Applied logistic regression and machine learning algorithms to see how various inputs affect default rate of underlying assets; followed by a parametrization process to construct logistic curves and distribution functions
- Built ABS asset-liability cash flow models in Python and generated Monte Carlo simulations in VBA to calculate reduction of yield and evaluate different tranches under scenarios in various delinquency buckets modeled from Markov Chain
- Revamped the ABSTRACK platform, the company's flagship real-time valuation system, by implementing some new functions like the computation of average life with differential equations using Java

Fortune Growth Capital **Beijing, China**
Quantitative Investment Analyst Intern 01/2018 – 05/2018
- Used MATLAB to import and analyze data from Wind and categorized stocks with 70 indices like cyclically adjusted price-to-earnings ratio (CAPE) and evaluated extra returns
- Constructed factor models to execute a multi-factor stock selection strategy that rebalances on a monthly basis based on market value-neutral and sector-neutral rules (realized Calmar ratio is 2.5)
- Built a support vector machine (SVM) with Gaussian kernel in MATLAB with stock performance, stock fundamental and macroeconomic factors; followed by a cross-validation based parameter tuning process for stock classification
- Conducted back-testing on stock selection models and monitored portfolio risks with historical VaR

Accenture **Shanghai, China**
Associate Intern at Operations Division 08/2017 – 09/2017
- Used Python to form staffing optimization models for outsourcing to determine the best solutions to save costs
- Researched the natural gas industry and analyzed the financial data of major natural gas companies

Morgan Stanley HuaXin Securities **Shanghai, China**
Analyst Intern at Investment Banking Division 06/2017 – 07/2017
- Used free cash flow DCF model and comparable approaches to price the fair value of an IT company for a M&A project
- Performed Precedent Transaction Analysis in Special Vehicles and Sanitation Industry and estimated valuation metrics

Legend Capital **Shanghai, China**
Equity Research Analyst Intern 01/2017 – 02/2017
- Collected and analyzed medical patents, research papers and industrial reports about organ transplants industry and wrote an analysis report to discuss the opportunities and risks within the market

RESEARCH PROJECTS

Financial Factors Concerning the Location of Village Banks 09/2016 – 01/2018
Asian Development Bank; Research Mentor: Prof. Yi Jiang
- Used R and Excel to conduct statistical analysis based on a panel dataset with 30,000 observations and form survival models to incorporate economic and financial factors, and determine their influence on the location of village banks

SKILLS

- Computer: Python, R, MATLAB, C/C++, Java, SQL, Excel/VBA, JavaScript, HTML, CSS, Stata, SPSS
- Machine Learning: Linear Regression, Logistic Regression, Support Vector Machine, Neural Network

Yiqi (Zoey) Zhao

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EDUCATION

Columbia University New York, NY
Master of Arts in Mathematics of Finance Expected Dec 2019

Pomona College Claremont, CA
Bachelor of Arts in Mathematics, Minor in Economics Sep 2014 - May 2018
- Major GPA: 3.8/4.0; Cumulative GPA: 3.7/4.0
- Awards: Pomona College Internship Program Awards (2015, 2016)
- Extracurricular: Claremont Colleges Debate Union: National Debater & Certified Judge

University of Oxford Oxford, UK
Visiting Student at St. Edmund Hall; Tutorials in Mathematics and Economics Oct 2016 - Jun 2017
- GPA: 3.9/4.0; Member of Oxford Union

WORK EXPERIENCE

RedArk Investment Management Beijing, China
Product Manager Assistant Jun 2018-Aug 2018
- Conducted comprehensive due diligence via analyzing financial statements, industry comparables, management profiles for two companies in the entertainment and logistics industries
- Participated in negotiating term sheets including investment and fee structures for two $20M+ deals
- Educated the sales team on ten investment products for high net worth individuals and institutional clients, including RMB and USD denominated equity funds, real estate, fixed income; provided detailed trainings on product features, fees and risk tolerance

Imperial Capital (Full-service investment bank offering institutional sales and trading) London, UK
Research and S&T Intern July 2017 - Aug 2017
- Researched macro environment, financial conditions, rating updates for ~40 EM corporate bonds weekly; co-published 10+ trading desk analyses for firm-wide and client distributions
- Presented trading ideas by identifying undervalued bonds via financial modeling, relative value assessments and cash flow projections
- Participated in earning releases and management conference calls; prepared key questions for each meeting

Zhongrong International Trust (Trust firm with $130 billion in assets under management) Beijing, China
Corporate Finance Summer Analyst Aug 2016 - Sept 2016
- Performed operational, industry and financial analysis to determine solvency, efficiency and profitability of three real estate companies; approved by management for minority equity investment
- Evaluated financial stabilities of two on-going deals and published quarterly credit reports

Deloitte Beijing, China
Human Capital Advisory Summer Analyst May 2015 - Jul 2015
- Analyzed impact of organizational structure and compensation system changes of 50+ benchmarking companies through synthesizing market data, and comparing performance pre and post restructuring
- Implemented employee training programs and finalized job descriptions for three Fortune 500 clients

LEADERSHIP

Chinese Student Association at the Claremont Colleges Claremont, CA
President Apr 2015 - Apr 2016
- Led six board officials to organize cross-campus events including a Spring Festival Gala, a Mid-Autumn Festival Celebration, tea talks and movie screenings to promote Chinese culture, attracting 500+ attendees
- Collaborated with five corporations to provide networking and work-study opportunities

SKILLS, ACTIVITIES AND INTERESTS

Skills: Python, Bloomberg, R, Stata, Matlab, Excel, PowerPoint and Word
Language: Mandarin (Native), English
Activities: Global Public Service Academy Volunteer, Physics TA, Pianist, Travelled to 15 countries

Kai Zhou

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Education

Columbia University, Graduate School of Arts and Sciences **New York, NY**
Master of Arts in Mathematics w/a Specialization in the Mathematics of Finance Expected Dec 2019

- **Coursework**: *Stochastic Processes, Time-Series Modeling, Intro to the Mathematics of Finance, Capital Markets and Investments*

Peking University **Beijing, China**
Bachelor of Science in Theoretical and Applied Mechanics Sep 2013 - Jul 2017

- Major GPA: 3.84/4.0, Ranking: 2/20
- **Coursework relevant**: *Advanced Algebra, Advanced Calculus, Probability and Mathematical Statistics, Methods of Mathematical Physics (variation method, complex variable functions, partial differential equations), Numerical Analysis, Data Structure and Algorithm*
- **Awards**: National Scholarship (twice), Tang Lixin Scholarship, Outstanding Student of Peking University (twice)

Professional Experience

Sinovation Ventures AI Institute (an AI research and development platform chaired by Dr. Kai-Fu Lee) **Beijing, China**
Machine Learning Algorithm Intern (full-time) Oct 2017 – July 2018

Project: Trading with Reinforcement Learning

- Wrote a review on existing methods and results of the application of reinforcement learning in stock trading, which serves as company document now and helps the company initiate the research on trading with reinforcement learning
- Coded a policy gradient reinforcement learning model with Tensorflow, where the policy is a two-layer neural network with a softmax layer and the objective function is Sharpe ratio, which lays the foundation for the company's further development
- Tested the model on the past 28 years of Shanghai Stock Exchange Index data, the model achieved positive reward on test set after 20,000 passes through training set

Project: Sales Prediction in Jewelry Retailing

- Accessed, cleaned, organized and analyzed the data from a jewelry retail customer, identified influential factors in sales
- Designed and coded a random-forest-based model that outputs jewel sales rating, achieving accuracy of 75%

Project: Recommendation Engine for News and E-commerce

- Designed and coded a factorization machine and neural-network-based algorithm for click-through-rate prediction using Tensorflow, the result of which ranks in the top 50 among 1600 teams in a Kaggle challenge
- Designed and coded an item-tagging algorithm (supervised) based on SVM, TF-IDF and word2vec, which tags 65, 000 online retailing products using 500 pre-defined tags with accuracy of more than 98%

New Times Securities **Beijing, China**
Quantitative Research Intern Sep 2016 – Dec 2016

Research Theme: Arbitrage Strategies with Index Futures and European Options

- Modeled the option-stock arbitrage space for 50ETF in real market based on call-put parity, the back-test result of which was supported by major research papers
- Constructed an arbitrage strategy with futures and a combination of call options and put options, which overcame the short selling limitation in China and made option arbitrage feasible
- Traded the portfolio in the market and obtained a risk-free annualized return of 6.5%
- Modeled the effect that the dividend of component stocks of SSE 50 index has on the arbitrage space, which made the arbitrage space predictable for contracts that cover dividend months

Columbia University, Quantitative Methods in the Social Sciences Program **New York, NY**
Teaching Assistant, for course "Machine Learning for Social Sciences" Sep 2018 – Present

Research Experience

Peking University **Beijing, China**
Undergraduate Thesis May 2017 - Jun 2017

Project: Implementation of Machine Learning Algorithms in Fault Detection and Classification of Ship Propulsion System

- Built a simulated ship propulsion system model with Simulink, which generated 100,000 data points for training and testing
- Applied several canonical machine learning algorithms on the data, tuned hyperparameters using gird search, obtaining an ensemble model that out-performs the accuracy of the traditional rule-based method while running 10 times faster

Skills

- **Python:** Proficient, familiar with Numpy, Scipy, Pandas, Matplotlib, Tensorflow; **C++** (intermediate), **SQL** (intermediate)
- **Language Skills:** Chinese (native); English (proficient, TOFEL: 111 (R 30, L 30, S 24, W 27), US & Canada exchange experiences)

Changyang Zhu
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EDUCATION:

University of California at Berkeley Aug 2014 to Dec 2017
Economics (B.A.), Applied Mathematics (B.A.) and Statistics (B.A.)

- Major GPA (Economics): 3.73/4.00, GMAT 760
- Coursework in Finance, Financial Economics, Behavioral Finance, Computer Science, Mathematics, Probability, Linear Modelling, Time Series Analysis; Software and programming skills: Microsoft Excel, PowerPoint, Word, Bloomberg terminal; familiar with R, Python, Java and Matlab; financial modeling knowledge, including DCF Model, CAPM Model, Black-Scholes Model, etc.

Columbia University in the City of New York Sep 2018 to present
M.A. Mathematics of Finance (Columbia Graduate School of Arts and Sciences)

EXPERIENCE:

Great Wall Securities Jun 2018 to Aug 2018
Summer Analyst Intern Shanghai, China
Macro Research

- Tracked and collected data about open market operations, interbank offered rates and bond trading, then composed the company's weekly public reports about Chinese monetary policies, foreign exchange situation, important macroeconomic news and Chinese bond market, based on the data collected.
- Created an auto-updating Excel document about major Chinese macroeconomic indicators such as GDP, monthly unemployment data, total retail sales, investments in fixed assets and net export.
- Collected information about the well-known local government debt issue in China, summarize all the central government policies local government debt and related market opinions, then help full time analyst draft the theme report about the issue.

China International Fund Management (a JP Morgan joint venture) Jul 2016 to Aug 2016
Summer Analyst Intern Shanghai, China
Department of High Net Worth Customer Investment Consulting

- Composed reports about the market insights and opinions from fund managers and translated reports from JP Morgan analysts in Europe and US, to be referred by consultants and Chinese customers
- Prepared pitch books for the company's mutual funds and PE funds; tracked and summarized macro-economic data and data on the company's funds and other products, e.g. AUMs, portfolios, performances.

LEADERSHIP:

Eta Omega Chi Business Fraternity Berkeley, CA
Co-founder, Founding Class Committee Member, Investment Group Core Member Oct 2014 to May 2018
Vice President of Professional Activities Oct 2014 to Jan 2016

- Co-founded the fraternity that focuses on facilitating communications between students who are interested in business and entrepreneurship and taught at its pledge class
- Elected as VP of professional activities and held various professional career development events at UC Berkeley including the 2015 Lock-in China Global Recruitment Info Session, which invites Didi Chuxing (the Chinese Uber) and many other tech companies
- Manage a $50000 portfolio and realize a 40% annualized return at its investment club since Jan 2016

Research Projects:

Heterogeneous Short Run Consequences of the 2016 Presidential Election
Mentor: Professor Severin Borenstein Haas School of Business
Research Assistant Feb 2017 – Dec 2017

- Collected data by county by months about birth, death, GDP, unemployment, etc.
- Merged the data with the presidential election voting data of 2012 and 2016
- Conducted weighted least square regressions to explore how the voting share (between Democratic and Republican) influences unemployment rate
- Achieved significance in most regressions and proved interesting correlations between voting share and unemployment

The Long Shadow of Colonialism: Decolonization and Post-Independence State Capacity
Mentor: Professor Guo Xu Haas School of Business
Research Assistant Oct 2017 – Dec 2017

- Collected the date of independence of former British and French colonies, merged them with the GDP data of Maddison Project
- Conducted OLS regressions and time series analyses on the data to explore the relationship between independence and economic development of former colonies
- Drafted research reports to visualize and conclude the results about the analysis

SKILLS AND INTERESTS:

- Software and programming skills: Microsoft Excel, PowerPoint, Word, Bloomberg terminal; familiar with R, Python, Java and Matlab
- Languages: Native in Mandarin Chinese and fluent in English
- Interests: Stock Investments, TMT industry and Texas Hold'em

Frank Zhu

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EDUCATION

Columbia University New York, NY
B.A. in Computer Science, B.A. in Mathematics and Statistics September 2014 – May 2018
Masters in Mathematics Finance September 2018 – December 2019

- GPA: 3.58/4.00
- Honors: Dean's List, Rabi Scholar (Four Year Research Scholarship)
- Relevant Coursework: Computer Science Theory, Machine Learning, Advanced Programming, Analysis of Algorithms, Data Structures in Java, Discrete Mathematics, Statistical Inference, Probability Theory, Linear Regression Models, Honors Math I&II, Modern Algebra I&II, Linear Algebra, Modern Analysis I&II, Stochastic Processes, Introduction to Cryptography, Optimization, Differential Equations

University Hill Secondary Vancouver, Canada
High School Diploma September 2010 – June 2014

- GPA: 4.00/4.00 | Honors: National AP Scholar, **3rd** overall in Canadian Open Math Challenge, Competed in Canadian Math Olympiad, **9/15** American Invitational Mathematics Examinations, **114/150** American Math Competition 12, Distinguished Honor Roll Environment Award for Vancouver Science Fair, SAT **2330**

LAB EXPERIENCE

Columbia University NeuroTechnology Research Center, New York, NY January 2015 - May 2016
Computational Biology research for Yuste Lab

- Develop in-vivo labeling techniques such as single celled electroporation for the purpose of tracking neurons long term in Hydra Vulgaris
- Design neuron identifying algorithms using tools from computer vision libraries
- Collaborate with Phd student to write Matlab functions which analyze Hydra behavior such as re-aggregation and feeding based on GCamp firings

Vestory, New York, NY May 2016-August 2016
Software Development Intern

- Worked primarily on Ruby on Rails and MongoDB backend of the app in an Agile-based engineering team
- Read papers on protein pathways affecting neural plasticity
- Adhered to standards of behavioral-driven development, writing unit and integration tests for all code in RSpec, Heroku
- Tackled front and backend bugs, gaining insight into RESTful APIs, Git workflow, and the MVC design pattern

PROJECTS

Columbia DevFest:

- Python Web app that generates random counterpoints for music theory using Computer Vision API from Microsoft
- Using Flask to integrate the backend app with CSS front end

GCamp Tracker:

- MatLab machine-learning based algorithm for tracking neurons in GCamp hydras
- Categorize the underlying neuro-circuits based on each neuron's excitation timings
- Tracklets are associated based on the cost matrix after being reduced by the Hungarian algorithm

EXTRACURRICULAR ACTIVITIES

Columbia Hall Council *President* Sept 2016 – Present

- Overseen student life activities of three upper classman dormitories

Columbia Economic Review *Webmaster* Jan 2016 – Present

- http://columbiaeconreview.com
- Design the entire newly reformed CSS styling for website which improved viewership by 50%

SKILLS

- **Computer Programming:** Java, Python, C/C++, MatLab, R, Flask, Javascript, HTML, CSS, Ruby
- **Interests**: Poker, Tennis, Running, Cooking, Skiing

Minzhi Zhu

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EDUCATION

Master of Arts program in Mathematics with specialization in the Mathematics of Finance (MAFN)

- Columbia University, New York, NY, USA — **Sept 2018-present**

Dual Degree Bachelor of Arts program between University of British Columbia and Sciences Po Paris

- **Bachelor of Arts, double major in Mathematics and Economics** — **Aug 2015-May 2018**
  - University of British Columbia, Vancouver, BC, Canada
  - GPA: 4.00
- **Bachelor of Arts, major in Economics and Political Science** — **Aug 2013-May 2015**
  - Sciences Po Paris, Reims campus, Reims, France
  - GPA: 3.70

COMPUTING & LANGUAGE SKILLS

- **Programming**: Python, R, Matlab, SQL, C++
- **Languages**: Mandarin Chinese (Native), English (Full Proficiency), French (Basic)

WORK EXPERIENCE

Undergraduate Teaching Assistant, University of British Columbia — **2017-2018**

- Graded homework assignments and quizzes for MATH 104 and MATH 105
- Prepared solutions to assignments

Administrative Assistant, China Comfort Travel Danyang — **Summer 2014 and 2015**

- Collected and summarized information about customers and upcoming trips using Excel
- Managed company's WeChat subscriptions to more than 200 followers
- Prepared and reviewed contracts between customers and the agency

ACTIVITIES & LEADERSHIP

Group member, Food Asset Mapping Project — **Summer 2016**

- Communicated with community partners, including Collingwood Neighborhood House and Greater Vancouver Food Bank on university students' role and engagement in Food Asset Mapping Project.
- Researched and wrote a report about food assets in Kerrisdale, a neighborhood in Vancouver, BC.
- Prepared and presented an academic and experimental review on Farmers' Market Nutrition Coupon Program in BC.
- Presented final project about community gardens in Vancouver region to community partners and university faculty members, and wrote a 12-page project report.

Group leader, Beavers helping beavers — **2014-2015**

- Paired up more than 50 freshmen with one-on-one senior student tutors according to their academic needs and backgrounds
- Organized icebreaking events, such as language circles and potluck parties, to foster on-campus communications
- Interacted with more than 100 high school students and their parents during university Open Day
- Presented group project to evaluate progress and potential future improvements

On-campus event coordinator, Sciences Po Environments — **2013-2014**

- Organized organic café, gardening events, and hiking trips to raise awareness for environment protection
- Planned and distributed weekly local organic basket delivery to foster ties with local community
- Introduced new recycling strategies on campus with funds raised from organic café
- Wrote final project report to analyze achievements and issues encountered