TIAN XIE

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EDUCATION

University of Michigan Ann Arbor, MI
Bachelor of Science in Data Science Sept. 2019 – Expected May 2021

- **GPA: 4.0/4.0**
- Honors/Awards: University Honors (2020), University Honors (2019)
- Relevant Courses: Programming and Data Structure, Discrete Mathematics, Applied Regression Analysis, Data Mining, Introduction to Biostats

Sun Yat-sen University (SYSU) Guangzhou, China
Major in Statistics Sept. 2017 – Jul. 2019

- **GPA: 3.9/4.0**
- Honors/Awards: First Class Scholarship (2018), Zhong Youchu Scholarship (2018), Honorable Mention at Interdisciplinary Contest in Modeling
- Relevant Courses: Mathematical Statistics, Probability Theory, Numerical Analysis, Functions of a Complex Variable, Honors Calculus, Advanced Algebra

RESEARCH EXPERIENCE

Portfolio Construction from Different Equity Characteristics
Department of Management Science, City University of Hongkong Remote
Research Assistant, supervised by Prof. Guanhao Feng Jun. 2020 – present

- Extracted financial and accounting data to develop a self-updating system in Python; calculated 447 anomalies by time series regression, cross-section regression and other methods, achieving a correlation of 0.95 with correct data
- Ranked over 2,000 stocks listed at NYSE using anomalies and market equity to construct a value-weighted factor
- Built data dictionary for anomalies to allow other researchers replicate our results

Prediction of Parkinson's Disease Progression with Supervised and Unsupervised Learning Methods
Electrical and Computer Engineering Dept., University of California San Diego Remote
Research Assistant, supervised by Prof. Pengtao Xie Apr. 2020 – Jul. 2020

- Developed Time Series Machine Learning models to predict the progression of patients suffering from Parkinson's Disease
- Built baseline models using Supervised Learning Methods; conducted multiple linear regressions and logistic regressions with Python and R and used Lasso to select 60 features from 374 in total
- Constructed various Deep Learning models (e.g. MLP, FCN, CNN) using 60 selected features and implemented data augmentation to improve model performance

Research on Innovation, Risks and Supervision of Digital Financial Inclusion
FinTech Research Group at Finance Department, Sun Yat-sen University Guangzhou, China
Student Research Assistant, supervised by Prof. Yan Zeng Oct. 2018 – Aug. 2019

- Research project on digital inclusive finance funded by the National Social Science Fund in China
- Conducted research of financial inclusion in the digital age, developed a two-period mathematical model to optimize efficiency in the crowdfunding market
- Completed three articles on hotspot issues in Digital Financial Inclusion published by China Social Science Press (ISBN: 978-7-5203-4552-1), including research on how the Internet will influence consumer finance and whether it is necessary for the government to encourage crowdfunding

INTERNSHIP EXPERIENCE

Zmate Quant Tech Ltd. Shenzhen, China
Quantitative Financial Analyst May 2020 – Jul. 2020

- Calculated Global/Rolling Spearman Correlation of minute-level signals of different futures contracts

(stock index futures, treasury futures, and commodity futures) in Python/R; evaluated quality of signals with correlation map
- Selected signals with high correlation by PCA among 121 different technical signals affecting the prices of futures
- Extracted day-level price data of futures from minute-level data in Mongodb database by Python; calculated signal values and used linear regression to predict short-term period return of these futures

DongXing Securities Ltd Shenzhen, China
Assistant of Investment Banking Department Jul. 2019 – Aug. 2019
- Analyzed government policies about Public-Private Partnership (PPP) projects; participated in due diligence with accountants and completed worksheets and reports during preferred stock offering process by TieHan Ecology
- Categorized companies intending to be listed in "Star Market" by their financial condition; used asset liabilities ratio to predict the probability of the company's IPO in Excel

COMPETITIONS

Datathon 2020 (The International Data Science Competition) Online
Final Round (Ranking top 2%) Jul. 2020
- Examined the relationship between different factors (including delay rate, passenger fare and major events) and stock price of commercial airlines in the United States
- Developed a time series regression model to predict stock price with testing error below 0.5

The Interdisciplinary Contest in Modeling (ICM) Guangzhou, China
Team Leader (Honorable Mention) Feb. 2018
- Developed Constrained Optimization Models with two teammates to determine optimal distribution of the future charging station network of Tesla
- Used Bass Model to predict how fast Tesla will dominate the market and replace regular vehicles
- Solved the models and visualized results by LINGO and MATLAB; presented a heatmap of the distribution of future electronic vehicle charging stations in the U.S

TEACHING EXPERIENCE

School of Mathematics, SYSU Guangzhou, China
Tutor Sept. 2018 – Jun. 2019
- Held review sessions for students to help them consolidate their knowledge in Numerical Methods
- Held weekly review sessions on Linear Algebra for freshmen

Instructor Recommendation Platform, Daquan Technology Co., Ltd Remote Teaching
Tutor Jan. 2018 – Sept. 2018
- Taught High School Level Mathematics and English for a small class of five students
- Developed study plans for high school students to improve their performance in the College Entrance Examination

LEADERSHIP EXPERIENCE

The Academic and Career Development Association in Sun Yat-sen University Guangzhou, China
Director Sept. 2017 – Jun. 2019
- Led a 15-person team to help organize activities for academic and career success (e.g., KPMG Career Fair, PwC Alumni Association, Citibank Mock Interview, Freshmen Academic Transition Lectures)
- Took charge of member recruitment for Student Union
- Organized a mathematical modeling competition in the field of Actuarial Science sponsored by Ping An Insurance Group

LANGUAGE & TECHNICAL SKILLS

- **Computer Skills:** C++, Python, R, MATLAB, SAS, SQL
- **Languages**: Mandarin (native), English (fluent, TOEFL: 114, GRE: V160+Q170)