YICHEN(JASON) JI

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EDUCATION

UNIVERSITY OF CHICAGO **Chicago, IL**
Master of Science in Statistics (with 25% scholarship) **Expected June 2024**
- **Future Coursework**: Stochastic Calculus, Portfolio Optimization, Risk Management, Quantitative Trading Strategy

UNIVERSITY OF TORONTO **Toronto, Canada**
Honors Bachelor of Science in Statistics and Financial Mathematics **September 2018 - June 2022**
- **GPA**: 3.88/4.00 (High Distinction)
- **Coursework**: Machine Learning, Deep Learning, Monte Carlo Simulation, Stochastic Processes, Time Series Analysis, Regression Analysis, Real Analysis, PDEs, Numerical Methods, Convex Optimization
- **Awards**: Summer Undergraduate Research Award, Dean's List (all semesters), Innis College Exceptional Achievement

EXPERIENCE

CHINA INTERNATIONAL CAPITAL CORPORATION(CICC) **Shanghai, China**
Financial Engineering Intern **July 2022 - October 2022**
- Implemented feature engineering by transforming unstructured ESG data sourced from CSR reports, news, social media and corporate events into alternative features in behalf of ESG rating metrics in Python
- Demonstrated meta-analysis on ESG rating methodology and industry materiality; researched on the relationship between ESG ratings, tail risk and systematic risk using copula models
- Constructed an ESG enhanced indexing strategy applying exclusionary screening, constituent weight optimization and the above rating metrics, outperforming its parent index by 3.2% annual return

UNIVERSITY OF TORONTO **Toronto, Canada**
Research Assistant in Bayesian Deep Learning **April 2022 - June 2022**
- Designed a new probabilistic deep learning framework for uncertainty quantification in neural networks utilizing Bayesian analysis of Normalizing Flow models; implemented the proposed model using PyTorch and nflows modules
- Conducted simulation experiments on multivariate Gaussian, conditional density estimation, MNIST, etc.; compared sampling and inference performance with benchmark Monte Carlo outputs using PyMC3

UNIVERSITY OF TORONTO **Toronto, Canada**
Research Assistant in Statistical Computing **September 2021 - December 2021**
- Conducted literature review on Monte Carlo, Variational Inference, and Approximate Bayesian Computation methods
- Implemented simulation and approximation algorithms, e.g. various MCMC samplers, ABC-MCMC and stochastic variational inference in R; Compared estimation performance of the above algorithms on Bayesian logistic regression

CHINA ALLIANCE OF SOCIAL VALUE INVESTMENT **Shenzhen, China**
Quantitative ESG Research Intern **June 2021 - August 2021**
- Scrutinized ESG data quality and consistency of over 300 Chinese listed companies; developed Chinese text tokenization and sentiment analysis utilizing Jieba and HanLP NLP modules in Python
- Accomplished quantitative analysis on corporate disclosure transparency in support of the annual value assessment report

PROJECTS

Factor-Based Investment Modelling in Chinese A-share market (Python) **Toronto, Canada**
- Constructed a feature pool with 100+ revised fundamental and technical factors based on the MSCI Barra Factor Model and 101 formulaic alpha
- Performed factor backtesting by employing t-test, IC-test, and grouped analysis on self-implemented pipelines; performed PCA and IC_IR weighted combination methods for dimension reduction and orthogonalization
- Adopted the Risk Parity allocation strategy and adjusted portfolio weights using the Black-Litterman model with Bayesian market perspectives, outperforming the prior benchmark by 5.2% annual return

Ubiquant Market Prediction Challenge (Python) **Toronto, Canada**
- Designed, implemented, and fine-tuned an ensemble deep learning architecture employing MLPs, CNNs, Transformer, and random forest models for the return prediction task in Tensorflow
- Evaluated model generalization capability on historical financial data with 300 time-masked features and 3773 investment instruments, delivering top 1.5% in-sample and top 20% out-of-sample forecasting performance among 3000+ teams

COMPUTER SKILLS/OTHER

Programming: Python (NumPy, Pandas, Scipy, Sklearn, TensorFlow, PyTorch), SQL, R, MATLAB, LaTeX
Leadership: Co-director of ETC Quant Research, Machine Learning Student Representative, Innis College Mentor (2.5 years)
Interest: Photography (Varsity Blues Photographer), Basketball (TCBL League Player)