Chenyin Gao | Curriculum Vitae

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EDUCATION

Sun Yat-sen University (SYSU) **Guangzhou**
B.Sc. in Statistics *2015–Present*

- **GPA**: Overall: 89.1/100; Major: 91.2/100
- **Core Courses**: Probability Theory, Mathematical Statistics, Applied Regression Analysis, C, C++, Matlab.

Sun Yat-sen University (SYSU) **Guangzhou**
Minor in Finance *2017–Present*

- **GPA**: 91.7/100
- **Core Courses**: Principles of Economics, Corporate Finance, Investments, Fixed Income Securities.

HONORS

2018 National Scholarship, China

2018 1st Merit Scholarship, School of Mathematics, Sun Yat-sen University

2018 Honorable Mentions, Mathematical Contest in Modeling, COMAP

2017 1st Prize, China Undergraduate Mathematical Contest in Modeling, CSIAM

2017 Honorable Mentions, Interdisciplinary Contest in Modeling, COMAP

2017 2nd Prize, The Chinese Mathematics Competitions (CMC), China Mathematical Society

2017 2nd Merit Scholarship, School of Mathematics, Sun Yat-sen University

ACADEMIC EXPERIENCE

Southern China Center for Statistical Science (SC2S2) **SYSU**
Research Assistant, Quantitative Trading Dept. *Dec,2017–Present*

- Completed weekly training sessions for Python and basic conceptions of quantitative trading.
- Modeled the The Limit Order Book(LOB) future market depth in both ask-side and bid-side to capture extreme deviation from the mid price and programmed volatility strategies to exploit intraday mean-reversion margin.
- Constructed various statistical arbitrage strategies including cointegrative arbitrage and hidden Markov model in Python and back-testing the strategies in with real data (2016-2018) downloaded from Wind terminal and TradeBlazer.

Monte Carlo EM (MCEM) Method to Derive Maximum Likelihood Estimates (MLE) **SYSU**
Leader, Statistical Program *Mar,2018–Jun,2018*

- Led a team of 4 to derive estimators of unknown parameters based on EM algorithm.
- Iteratively estimate mle for 1000 times in the expectation of Monte Carlo log-liklihood based on Gibbs sampler incorporated a Metropolis-Hastings step for candidate acception and Newton-Raphson method for deriving no close-formed mle.
- Approximated the Newton-Raphson iteration with augmented posterior likelihood through Louis' Methods to achieve accelerated convergence in the neighborhood of mode.

National Natural Science Foundation of China (NSFC) Program **SYSU**
Research Assistant, Risk Contagion and Network Analysis *Oct,2017–Sep,2018*

- Conducted text-based analysis on the business scopes of all domestic listed companies via keywords extraction and vectorization.
- Computed the cosine similarities of company word-vector respect to the sector definition word-vector from Chinese Input-Output Association (CIOA).
- Applied nonlinear lasso-quantile regression in R and estimated ΔCoVaR to explore the tail-risk spillover of paired stocks in Chinese financial market.

Energy Profile of the States of Arizona, California, New Mexico and Texas **SYSU**
Leader, Data Exploration Analysis (Interpretation and Forecasting) Project *Feb,2018–Feb,2018*

- Reorganized data regarding energy usage and production in each of the state and establish indicators to evaluate their usage of clean energy based PCA and cluster analysis.
- Estimated VARIMA model with Yule-Walker Estimators for trend analysis and forecasting.
- Assessed the finite sample coefficients distribution obtained by sequential bootstrapped data set and report its critical quantile value and confidence interval.

Systematic Calibration and Graphic Computed Tomography (CT) **SYSU**
Leader, Digital Imaging Processing Program *Aug,2018–Sep,2018*

- Calibrated the parameters, rotation axis and beam width, of CT scanner based on the data retrieved by detecting a known and fixed two-dimension medium.
- Manipulated the data produced by CT through integral inverse solution and Radon transformation to demonstrate the characteristics of an unknown medium including its location, shape and absorbency.
- Analyzed the spectral images based on Fourier transformation and enhance its quality by nonlinear filter.

INTERNSHIP & TRAINING

China Merchants Bank **Shenzhen**
Member, FinTech Agency Customers Department *May,2018–Sep,2018*

- Utilized web crawler in Python to keep track with business auction information including Smart City, Wise Information Technology of 120 (WIT120) and etc.
- Accomplished FinTech training sessions for algorithm design, particularly in hot word acquisition through Bayes model averaging (BMA), Newton's law of cooling and cross entropy for coherent measurement.

Deloitte Enterprise Consulting (Shanghai) Co., Ltd. **Guangzhou**
Analyst, Risk Advisory (RA),FSI *Nov,2017–Mar,2018*

- Articipated in the overall risk management system building for a local Fortune 500 enterprise.
- Conducted stress tests using PCA, logistics regression and scenario analysis to predict future risk indicators.
- Implemented local iteratively reweighted least squares (IRLS) regression to enhance traditional VAR model in R.

ACTIVITIES

Global Financial Analysis **Hongkong**
Leader, International Finance Elite Program, Investment Services *Jul,2017–Aug,2017*

- Collected raw data using web crawler and visualized effective factors after necessary data clearing and organization.
- Made an analysis investment report on the development of the Great Wall Automobile and demonstrated its expected. return and modified duration in the final presentation.

COMPUTER SKILLS

Programming Language Python(Advanced),R(Advanced),C/C++(Intermediate)

Software Microsoft Office, Matlab, Lingo, Eclipse, Visual Studio, PHP, LaTeX

ADDTIONAL

Language Mandarin (native), English(proficient)

Standardized Test TOEFL:103,GRE:329+4

Interest Sketch-drawing (Grade 8),Guitar-playing