Yue Ruilong

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EDUCATIONAL BACKGROUND

Tsinghua University, Dept. of Industrial Engineering Beijing, China

Industrial Engineering B.Eng., minor in Statistics 2015.8-Present

- **GPA:** 3.48/4 **Rank**：7/53 Most math courses > 90 (top 20%)
- **Scholarship:** National Endeavor Fellowship, Scholarship of Academic Excellence, Scholarship of Outstanding Volunteers, etc.
- **Courses:** Operations Research(1-3), Probability Theory, Statistical Inference; Introduction to Data Science, JAVA and Object-Oriented Programming, Numerical Analysis, Data Structure and Algorithm Analysis; Production Planning and Control, Engineering Economy, Database Concepts, Modeling and Simulation, Quality Control and Management; Multivariate Statistics Analysis, Linear Regression Analysis, Experimental Design, Applied Time Series Analysis, Financial Statistics, Reliability Data and Survival Analysis, etc.
- **Courses (taking):** Convex Optimization, Introduction to Mathematical Physics Equations, Statistical Calculation, Stochastic Process, Stochastic Analysis

RESEARCH PROJECT

A Solution to Big-data Dynamic Portfolio Selection Problem with No-shorting Constraints 2018.7-2018.10

Instructor: Hoiying, Wong, Professor, Department of Statistics, Chinese University of Hong Kong

- Self-study stochastic calculus, optimal control, high-dimensional statistics and other knowledge. Analyze the viscous solution of portfolio problems under short-selling constraints. Calculate the theoretical and estimated statistics of terminal wealth, and prove its convergence properties. Finding a key factor affecting convergence, a new computational method (NSLPO) is proposed to implement strategies with high-dimensional data.
- Use simulation and empirical research methods to study the convergence properties and effects of NSLPO, and compare the results with LPO results in markets with and without strict short-selling restrictions.

Hollow Shaft Lifetime Modelling 2018.4-2018.7

Instructor: Yanfu Li, Professor, Department of Industrial Engineering, Tsinghua University

- Clean the provided hollow shaft fault data, obtain complete failure data and perform descriptive statistical analysis. Verify the results of distribution and detection point estimation, and use the methods of MLE, Weighted MLE, OLS to analyze the Weibull distribution and compare the results.
- Study the data with a large number of right censored data using non-parametric (Turnbull), parametric (Weibull, gamma, etc.) and semi-parametric (logarithmic spline) model, and compare the advantages and disadvantages.

COURSE PROJECT

Time Series Modeling Analysis of Beijing Housing Price, 2018.6-2018.7

Instructor：Dong Li, Associate Professor, Center for Statistical Science, Tsinghua University

- Crawl the monthly house price, commercial residential building transaction area and quarterly GDP in Beijing from 2009 to 2018 for descriptive statistical analysis. The ARIMA model is fitted and test for house price, and parameter estimation and model diagnosis are performed.
- Perform outlier detection on the model, extract external interventions that have impacts on the model, and include them in the model. Forecast future housing price changes based on the final model and explore the relationship between house prices and GDP changes.

Study on the Factors of Drinking Behavior of Middle School students, *(with classmates)* 2017.4-2017.6

Instructor：Chen Wang, Assistant Professor, Dept. of Industrial Engineering, Tsinghua University

- Describe data of alcohol consumption and other information of a middle school student abroad with R.
- Select main factors affecting alcohol consumption with PCA, and do multiple linear regression, factor analysis and error analysis. The regression model and conclusion of the relationships between alcohol consumption and performance, sex and family economic conditions are obtained, and lastly we showed our poster and questionnaires in the Department.

Optimal Location of Express Point in Tsinghua University, *(with classmates)* 2016.11-2016.12

Instructor：Tianhu Deng, Associate Professor, Dept. of Industrial Engineering, Tsinghua University

- With problem of the low efficiency of the campus express system, the optimization of the location of the express point is carried out, and the operational research model is set up with the constraints of cost and others to minimize the average time of express delivery.
- A large number of data related to the collection cost, distance, the spatial distribution of the students and the express point are gathered. The optimal solution and the sensitivity analysis is obtained by CPLEX. We get the optimal scheme for the location of the three express points: Zijing #14, Tingtao Yuan and the Northeast gate, and the optimal number of employment.

WORK EXPERIENCE

Beijing Shuwu Commercial Technology Co. Ltd Beijing, China

Stock Quantitative Strategy Intern 2018.1-2018.3

- Analyzed the historical data of some stock in 2015. Use R to extract the characteristics including stock trading volume, transaction price, committee and their ma value when there are obvious trends in the stock tick data, to provide data support for the team to develop the T+0 trend strategy.
- Studied the conditions of trading and stop conditions (including funds, price, volatility and so on) in the trend trading strategy, and selected stocks with large day fluctuations in the last 3 months by standard deviation.
- Read more than 30 research reports, and tried to introduce the Dual Thrust strategy and the opening interval breakthrough. Finally I realized the R-breaker strategy, and completed the optimization of the dynamic adjustment of six prices according to the historical transaction, avoiding the frequent losses caused by the unreasonable initial price. Both data in and out of sample obtained good returns in 2015-2016, which provided a new direction for trading strategy development of our team.

SOCIAL ACTIVITIES

CSTA of Dept. of Industrial Engineering, Vice President 2017.1-2018.2

- Planned and organized the IE Comprehensive Skills Competition, micro Sharon between teachers and students and other activities. Undertook the writing of WeChat articles, mail and scheme, summary and other documents, and organized the specific work. Assisted the Department to win the award of the Challenge Cup excellent organization and effectively enhance the research atmosphere in the department.

Global South Culture Immersion Program UGM-Tsinghua University Yogyakarta, Indonesia 2017.9

- In the lectures and visits, I put forward some pertinent questions and suggestions. I investigated the theme of the Indonesian language development and national unification with classmates and the results are displayed. Lastly I got appreciations of many professors for the research ability and outstanding performance.

ADDITIONAL INFORMATION

English: with overseas learning experience, proficient in reading and writing, fluent listening and speaking ability.

Skills: **R, Java, python,** C, MySQL, SAS, CPLEX, Minitab, Microsoft Office

Extensive interest, like swimming, table tennis (department team member of Dept. of Industrial Engineering) and other sports, reading and “modern style” poetry, etc.