

# Yue Zhang

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## » Education

**The Hong Kong University of Science and Technology**, Hong Kong  
Master of Philosophy/PhD in Information Systems September 2021 – Present

**The University of Texas at Austin**, Austin, Texas, US  
Master of Science in Economics August 2017 – May 2019

**Rice University**, Houston, Texas, US  
Bachelor of Arts in Mathematical Economic Analysis August 2013 – May 2017  
Bachelor of Arts in Computer Science

**Raffles Institution**, Singapore, Singapore  
High School Diploma in Science and Economics January 2009 – December 2012

## » Research Interests & Skills

Research Interests: Digital economy, platform economics

Programming Skills: R, Python, MySQL, Tableau, MATLAB, STATA, Java

## » Research Experience

Advisor: Dr. Stephen Magee, UT Austin, Austin, Texas, US May 2019 – July 2019

### **Project: How to Value a Patent: A Simple Formula for Lost Profits Patent Damages**

- Developed a Python program to extract data based on keywords from 54,000 patent infringement cases and compiled it into a MySQL database.
- Estimated lost profits patent damages to patent owners based on the proposed theoretical model, and provided suggestions to modify the model to include different fixed effects and characteristic variables, which improved the prediction accuracy by 15%.
- Contributed to papers and reports researching patent infringement cases in the U.S. and prepare tables and graphs to be presented in panel discussions.

Advisor: Dr. Stephen Magee, UT Austin, Austin, Texas, US May 2019 – July 2019

### **Project: Stock Price Prediction**

- Collected daily price fluctuations for ten major US stocks over five years, cleaned the data, and compiled them into a MySQL dataset.
- Trained and tested different machine learning models such as K-means clustering and support vector machine to predict price fluctuations of the stocks.
- Compared the pros and cons among models and made relevant adjustments, which improved simulated returns of investment by 30%.

Advisor: Dr. Sandra Black, UT Austin, Austin, Texas, US August 2018 – May 2019

### **Master Thesis: Effects of Maternity Leave Benefits in Developing Countries**

- Collected and compiled data on female employment rates and child health conditions in 12 developing countries over 15 years, and presented the results on weekly seminars.
- Adopted 2 Stage Least Squares model to study the causal relationship between new maternity leave policy and women and children's health conditions in each country.
- Examined and compared the effects of maternity leave policy across different countries in both short term and long term and provided evidence of the policy's benefits on female and child conditions.

Advisor: Dr. Robin Sickles, Rice University, Houston, Texas, US August 2016 – May 2017

## **Undergraduate Thesis: Impacts of Artificial Intelligence on Income Inequality**

- Analyzed correlations between technology advancement and income inequality across 40 countries over 17 years with Gini Coefficients and Generalized Entropy Indices, and testified the job polarization theory proposed by David Autor.
- Predicted future impacts of artificial intelligence on the income gap within general society and specific industries.
- Proposed and examined potential policy solutions to reduce income inequality and other related social problems.

Advisor: Dr. Natalia Sizova, Rice University, Houston, Texas, US

May 2016 – July 2016

### **Project: Application of different econometric and statistical models in forecasting**

- Explored and applied various models such as random forest and neural network in training and forecasting of Kaggle data sets, achieving top 20% in prediction accuracy ranking.
- Prepared and revised econometrics handouts for future students on topics such as panel data and overfitting.

Advisor: Dr. Edward Egan, Rice University, Houston, Texas, US

November 2015 – May 2016

### **Project: Effects of innovation policies and Houston entrepreneurship ecosystem**

- Collected data of each state's grants and spending on business loans and funds and produced summary reports.
- Investigated the local entrepreneurship ecosystem and compiled information about start-up incubators.

Advisor: Dr. Elaine Ecklund, Rice University, Houston, Texas, US

November 2013 – May 2014

### **Project: Religious and ethical beliefs of scientists and researchers across different countries**

- Reviewed over 30 interview transcripts and extracted key points on scientific, religious, and environmental issues.
- Performed stratified random survey samplings of scientists and researchers from five different countries.

## » **Work Experience**

**Evidera**, San Francisco, California, US

Research Associate

July 2019 – October 2020

- Developed a decision tree budget impact model in Microsoft Excel to evaluate the cost impacts of a new drug launch on healthcare systems in 3 countries over 5 years, which summed up to over \$150M per country per year.
- Designed and conducted scenario analyses for over 10 pharmaceutical products, forecasted the cost-effectiveness of the products under more than 15 scenarios and presented the compiled results to both clients and internal teams.
- Worked closely with principal investigators to develop multiple proposals and presentation slides, achieving over \$400K project authorizations, and served as the project manager and lead programmer of one project.

**AIC Education**, Shenzhen, China

Data Analysis Intern

May 2017 – July 2017

- Collected over 1000 students' college application results and compiled them into a MySQL database.
- Adopted linear regression model to estimate students' college application outcomes, and used the results to design targeted supports and services for each student.

**Profit Intelligence**, Houston, Texas, US

Summer Intern

June 2015 – August 2015

- Developed a strategic export launch plan and a cost calculation model for the client to start an export business.
- Conducted a market analysis of snack nuts in the target countries and presented it to the client.

## » **Honors**

Gaston Rimlinger Prize for best undergraduate paper in Economics, Rice University

May 2017

Honor Student in Economics, Rice University

May 2017

Member, Omicron Delta Epsilon International Honor Society for Economics

September 2015 – Present

School-based SM1 full scholarship, Raffles Institution

November 2008 – January 2013

## » **Interests**

Swimming, Drama, Golf, Traveling