

# Dennis (Shaoxiong) Zheng

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- CAREER STATEMENT** I am looking for challenging opportunities in machine learning and data science.  
I am authorized to work in the US under F-1 OPT and I will need H-1B visa sponsorship in the future.
- CORE SKILLS** 3+ years of experience in data analysis, regression, experimental design, hypothesis testing.  
2+ years of experience in machine learning and deep learning.  
Proficient in Python (numpy, pandas, scikit-learn, keras, PyTorch), R, SAS, and SQL.
- EDUCATION**
- The University of Chicago** Chicago, Illinois  
*M.S. in Statistics* 2019 Sep – 2021 Jun
- The University of Hong Kong** Hong Kong  
*B.S. in Statistics with First Class Honours* 2015 Sep – 2019 Apr
- EXPERIENCE**
- The University of Chicago** Chicago, Illinois  
*Graduate Research Assistant* Dec, 2020 – Present
- Review graph-based machine learning models for clustering and dimensionality reduction.
  - Compare cutting-edge graph representation learning and embedding algorithms with application in social networks, sentiment analysis, and recommender systems.
- The Hong Kong Centre for Economic Research** Hong Kong  
*Research Assistant II* May, 2019 – Aug, 2019
- Investigated the impact of housing policies on residents' political stance. Retrieved demographic and housing data of interest from the Hong Kong census data set of size 1,185,831 by 87 with SQL.
  - Built fractional multinomial logistic regression models to predict the votes proportions by demographic and housing variables. Obtained significant parameter estimates at 0.001 significance level.
  - Constructed data visualization pipeline to display the votes proportions on the Hong Kong map.
- Hong Kong Monetary Authority** Hong Kong  
*Winter Intern* Jan, 2018 – Jan, 2018
- Compared the attributes and the underlying blockchain algorithms of various cryptocurrencies.
  - Analyzed time series data of Bitcoin price with autoregressive integrated moving average models.
  - Identified and measured cryptocurrencies related opportunities and riskiness to Hong Kong's economic development and financial stability. Wrote daily news reports to the team.
- PROJECTS**
- Cooperation Relations of Private Equities and Venture Capitals in China** 🔄
- Scraped over 80,000 investment events from cyzone.cn with Python. Improved the scraping speed by 10x using multiprocessing. Cleaned and processed the data with pandas.
  - Fit community detection models and found an alliance of foreign funds including Sequoia, Matrix Partners, etc., and a separated alliance of funds with a government leader Shenzhen Venture Capital.
  - Built interactive visualization of the cooperation network of the funds with Gephi. 📄
- A Deep Learning Model to Predict Vehicle's Location Based on GPS Data**
- Second Prize Winner of Ernst & Young NextWave Data Science Competition 2019*
- Developed a deep neural network with TensorFlow to predict the location of the vehicles in Atlanta based on more than 100,000 past GPS location records.
  - Achieved an F-1 score of 0.89. Ranked 76/2369 worldwide. Attended the Hong Kong Final, delivered a presentation with Q&A to the data science executive team, and was awarded the second prize.
- A Mathematical Model for Traffic Merging at Toll Plazas**
- Outstanding Winner of Mathematical Contest in Modeling 2017*
- Led a team of three to construct a mathematical model that optimized the fan-in merging process when vehicles pass through toll plazas and write a report in 99 hours.
  - Ran simulation, sensitivity analysis, and conducted hypothesis testing to conclude that the average throughput of our proposed model is significantly higher than the existing model, while the accident rate and the construction cost of the plaza roughly remain unchanged.