
Mo Chen

- Website: <http://www.linkedin.com/pub/mo-chen/25/541/843> • Phone: 412.789.4708
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Education

Carnegie Mellon University, Sep 2010-Present

Ph.D., Engineering and Public Policy

Dissertation: The Impact of Passenger Vehicle Booming in China: Quantitative Policy Analysis

Awards: Carnegie Mellon Full Tuition Scholarship

Chinese University of Hong Kong, Sep 2005-May 2010

B.Eng., Second Class Honor, Financial Engineering

Awards: Chung-Chi College Student Exchange Scholarship

University of California, Berkeley, May 2007-Aug-2007

Haas Business School Exchange Student

Skills

Programming Languages: C#, C, SQL, Python, Java, HTML

Software Package: Microsoft Office, MATLAB, R, Stata, SAS, ArcGIS, Latex, Weka, Hadoop

Languages: Native in Mandarin, Fluent in English and Cantonese

Core Courses

Policy Analysis: Quantitative Methods for Policy Analysis, Cost-benefit Analysis, Theory and Practice of Policy Analysis, Law and Economics, Behavioral Economics

Advanced Quantitative Training: Applied Data Analysis, Machine Learning, Numerical Methods for Engineering Design and Optimization, Microeconomics (Ph.D. level), Information Retrieval, Data Mining

Work Experience

Head of Analytics, Jul 2014-Present

EEme LLC, United States

- Designed and built the appliance energy usage disaggregation algorithm (fridge, dishwasher, dryer, electric vehicle, pool pump, water heater, HVAC)
- Prototyped the disaggregation algorithm in MATLAB, designed the Python version

Project Collaborator, Jul 2013-Dec 2013

Lumina Decision Systems, United States

- Customized the ATEAM (Analytica Transportation Energy Assessment Model) for China
- Collected and organized raw data from different agencies in China

Teaching Assistant, Jan 2013-Jun 2013

Quantitative Methods for Policy Analysis in Carnegie Mellon University, United States

- Assisted in redesigning the curriculum and improving the quality of the lecture
- Homework and project grading, held Q&A sessions for assignment problems

Data Analytics Intern, May 2012-Sep 2012

Roland Berger Consulting Group, China

- Developed time-series based forecast models of the Chinese import vehicle market for Volkswagen China Group (sold the model to Volkswagen for ~70k USD)
- Involved in developing branding elevation strategy for General Motors China

Software Analyst May 2008-May 2009

ITE Smartcard Solutions, Hong Kong

- Managed the university air-conditioning fee-collection project (C#): User interface and data structure improvements
- Participated in the Hong Kong Wetland Park entrance fee collection system development: Logic gate coding and QA testing

Research Experience

Author, Carnegie Mellon University, Jan 2013-Sep 2013

- Congestion control policy analysis in Beijing: economics perspective
- Consumer behavior study: behavioral economics perspective

Author, Carnegie Mellon University, Jan 2012-Dec 2012

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- Vehicle safety indexing and driving behavior modeling for U.S. and China
- Paper under review at *Transportation Policy*: "The Obstacles for Chinese Vehicle Safety Improvements: Driving Behavior Analysis in China and U.S."

Author, Carnegie Mellon University, Dec 2010-May 2011

- Emissions for future passenger vehicle fleets in China and U.S.
- Studies on current electric vehicle market in China and its potential environmental impacts
- Paper under review at *Energy Policy*: "Modeling the Characteristics and Emissions of the Future Chinese Passenger Vehicle Fleet"

Co-Author, Carnegie Mellon University, Dec 2012-May 2013

- Traffic safety and mobility data analysis in China, Japan and US.
- Paper presented on *EAST Conference*: "Traffic Safety and Mobility: Reviewing the Ethical Aspects and Revisiting the Definition of Accident Risks"

Co-Author, Carnegie Mellon University, Sep 2012-Jul 2013

- Revisiting the concept of transportation system risks: empirical study in Pennsylvania.
- Paper presented on *SRA (Society of Risk Analysis) Annual Meeting*: "Exploring the Concept of Transportation System Risks"

Project Developer, <https://github.com/HAHAHANIBAL>, Feb 2011-Present

- Development of vehicle ownership models and vehicle safety index models in China (Stata)
- California driving safety study (ArcGIS): the relationships between fatality rate and geographical features
- Real Estate Pricing Forecast in Pittsburgh (Stata): logistic regression analysis on real estate pricing data in Pittsburgh in the past 20 years
- Movement decoding for Brain Computer Interface (MATLAB): improved support vector machine classification algorithm for brain signal decoding
- Improvement of Naive-Bayes Tree learning (Java and Weka): adopting ensemble learning to improve the robustness of the model
- 2-D Image Recover Project (MATLAB): recover sparse vector image into complete pixel image
- Machine Learning Algorithm Development (MATLAB): re-write Naive-Bayes, voted perceptron, SVM and stochastic gradient log regression classification to perform special data mining tasks

Side Projects

Contributor, Euler Project, <http://projecteuler.net>, Dec 2013-Present

- Contributed Euler Project solutions in Python (~70 problems solved by far)

Founder, Starry1st Text Mining Analytic Project, <http://starry1st.ieph.net/>, Feb 2011-Present

- Text Analytic Project (Python and C): relevance ranking of user ID in discussion board, linguistic pattern recognition in user comments, gender classification (Analyzed ~100k text data)

Developer, DotA2 Replay Analyzer, Carnegie Mellon University, Jan 2014-Present

- Used Python to extract and parse DotA2 replay data and export the in-game combat log
- Analyzed skills, damages and other events happened in the first 15 minutes of the game in Python, visualize the data by using Numpy and Matplotlib
- Used selected features to run SVM classification and forecast match results based on the collected characteristics of the game (~50k replays analyzed, achieved 80% cross-validation accuracies)
- Recorded internet latency, server cluster and other user info into the database
- Built and interactive GUI for the analyzer

Research Assistant, Chinese University of Hong Kong, Sep 2009-Dec 2009

- Improved algorithm for first-order subset problem: algorithm optimization

Leadership Activities

Entertainment President, Chinese University of Hong Kong, May 2006-May 2007

- Director of the Mainland Undergraduates Singing Contest

Founder, China-CMU Transportation Data Center, May 2011-Jul 2011

- Establish data transfer between State Information Agency in China, CARTARC (Automotive Research Center in China) and Carnegie Mellon University

Assistant Coach, Allegheny County Under-12 Soccer League, Jan 2013-Jul 2013

- Responsible for weekly training and tactics development