MICHAEL YI CUI

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EDUCATION

Fudan University   Shanghai, China
BA in Economics (changed major from Mechanical Engineering to Economics in 2017)   Sept. 2015 – Jun. 2020
- GPA: 3.5/4.0; admitted on basis of performance on national college admissions exam (top 0.3%)
- Selected awards: First Prize Scholarship (top 3%, awarded to those with outstanding grade performance and social practice), Second Prize in National Mathematical Modelling Competition (top 3% of 90,000 participants)
- Selected to Fudan Undergraduate Research Opportunities Program twice on basis of outstanding research performance (top 5%)
- Visiting student to the University of California, Los Angeles and the Chinese University of Hong Kong
- Research interests: Microeconomic Theory, Mechanism Design, Optimization

University of California, Los Angeles   Los Angeles, USA
Exchange Student, University of California Education Abroad Program   Sept. 2017 – Dec. 2017
- GPA: 3.7/4.0; Santander Scholarship (top 1%)
- Took graduate level course: 'MAE C271A: Probability & Stochastic Processes in Dynamical Systems' (A)

PUBLICATIONS/PATENTS

1. Yi Cui, *Health detector based on intelligent mobile terminal*   Nov. 2019
   National Patent-S, First Inventor, IPC Classification Number: A61B5/00, Patent Number: CN209611107U
2. Yi Cui, *Health detector based on intelligent mobile terminal and detecting method of health detector* Feb. 2019
   National Patent-F, First Inventor, IPC Classification Number: A61B5/00, Patent Number: CN109316169A

CONFERENCES

Paper presented: The Impact of Green Credit on the Development of Regional Industrial Structure [SIIFC Slides 2019]
1. The Eighth China Youth Economic Forum, Peking University, Beijing, P.R. China   May 2019
2. The Seventh SIIFC International Forum, Shanghai, P.R. China   Apr. 2019

RESEARCH EXPERIENCE

The Chinese University of Hong Kong (Department of Economics)   Hong Kong, China
Research Assistant to Professor Jimmy Chan   Jun. 2019 – Sept. 2019
- Worked on a *Mechanism Design, Auction and Non-convex Optimization* project
- Formulated the n-people land redevelopment problem as a direct mechanism problem; Solved the feasible mechanism for the n-people case and found the optimal mechanism; Finished the simulation over two different feasible regions with regards to social welfare function for a 3-people case by using MATLAB; Optimized the algorithm and the global test
- Spoke weekly with Prof. Jimmy to report the staged achievements and adjusted the next goals, such as further analyzing the mechanism or continuing to achieve the results of numerical simulation
- Made a presentation to illustrate the final results [Presentation Slides 2019]

Fudan University (School of Economics)   Shanghai, China
Research Assistant to Professor Xiao Wei   Sept. 2018 – Present
- Took part in Fudan's Undergraduate Research Opportunities Program (program # 18502; ranked 'Outstanding')
- Worked on a *Microeconomic Theory and Dynamic Hedging* project; Awarded Xi Yuan Scholar
- Extended the classic expected utility model to solve a dynamic hedging problem; Discovered the lack of the coordination between time and risk
- Used the Kreps-Porteus model, based on the expected utility model, to conduct in-depth research on dynamic hedging; Further analyzed single period and multi-period problems by utilizing tree structure
- Spoke weekly with Prof. Wei to exchange ideas on the methods of solving multi-period problems
- Made a presentation as part of the midterm and final thesis defense [Presentation Slides 2018]

University of California, Los Angeles, (Department of Mathematics)   Los Angeles, USA
Research Assistant to Professor Wotao Yin   Sept. 2017 – Dec. 2017
- Led three-member group on the *Reinforcement Learning, Convex Optimization, Primal-Dual Algorithm* project

- Learnt sequential markov decision processes and optimization problems; Analyzed core algorithms such as Sarsa (on-policy), Q-learning (off-policy) and Actor-Critic; Studied the classic primal-dual problem and further understood the markov decision process
- Spoke monthly with Prof. Yin and audited the graduate seminar 'Math 290' [Presentation Slides 2017]

Fudan University (School of Information Science and Technology) Shanghai, China
Research Assistant to Professor Shuyu Zhang Dec. 2016 – Jul. 2018
- Took part in Fudan's Undergraduate Research Opportunities Program (program # 17441; ranked 'Outstanding'), and the Tengfei Innovation Program; Awarded Xi Yuan Scholar
- Portrayed the structure of light receiving and processing module by using AutoCAD; Combined light emitting module, the light receiving module, the light processing module and the data analysis application software to realize the health detecting function for jaundice related diseases
- Won a utility model patent and an innovation patent, the Tengfei Cup Award (highest honor, ranked 1/40) and third prize in the National Challenge Cup Contest

SELECTED AWARDS AND HONORS

- Silver Medal of National Mathematics Competition (top 1%) 2019
- First Prize Scholarship, Outstanding Student Scholarship, Fudan University (top 3%) 2019, 2016
- Outstanding Student, Fudan University (top 5%) 2019, 2018, 2016
- Excellent Volunteer and Honor Prize of Practical Training, Fudan University (top 1%) 2019, 2018, 2017
- Yingfan Wu Scholarship, top scholarship in the School of Economics, Fudan University (top 1%) 2018
- Second Prize of National College Students' Mathematical Modeling Contest (top 3%) 2018, 2016
- Xi Yuan Scholar, Fudan University (top 5%) 2018, 2017
- Third Prize of Computer Programming Contest, Fudan University (top 5%) 2016

WORK EXPERIENCE

Teaching Assistant, School of Economics Shanghai, China
Advisor: Yu Liu, Honor Class, Fudan University Sept. 2019 – Jan. 2020
- Principles of Microeconomics (SOSC120020.01), undergraduate level [Syllabus Microeconomics 2019]
- Taught students about solving the problem sets of microeconomics during TA sessions and after class

Teaching Assistant, School of Economics Shanghai, China
Advisor: Huailu Li, EMA Class, Fudan University Sept. 2019 – Dec. 2019
- Econometrics (EMAE620009.01), graduate level [Syllabus Econometrics 2019]
- Taught students about intermediate and advanced knowledge of Stata during TA sessions and after class

PROJECTS

The Mathematical Contest in Modeling (MCM) Jan. 2018
- Modelled change of language speakers of first order (native), second order (or more) and in total
- Predicted the trend of language speakers all over the world in ten to fifty years [Paper of MCM Contest]

Calibration of an Accelerometer Using GPS Measurements Sept. 2017 – Dec. 2017
- Final project in MAE C271A, a graduate level course at UCLA
- Designed and performed an analysis of calibration of an accelerometer [Paper of Project, UCLA]

GitHubEye: A Social-network-based Search Engine for GitHub Jan. 2018
- Finished the front-end design of our project website (CSS, HTML, JavaScript) – a content search service named GitHubEye to help people find GitHub repos; If you type your GitHub user name and your natural language description of what you are looking for, our service will return you the sorted repo list based on your social relationship in GitHub [Our Contributor List]

ADDITIONAL INFORMATION

Additional Professional and Extracurricular Experiences
- Vice-President of the Academic Department, Fudan University Aug. 2016 – Sept. 2018
- Held monthly academic lectures and invited professors from different areas to share their experiences; Coordinated team members and completed a final academic project together

Computer and Language Skills
- MATLAB, Stata, R, Eviews, AutoCAD, Python, C, C++, SQL, LaTeX