Kun Xie

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Education

- **The Hong Kong University of Science and Technology (HKUST)** Hong Kong
  Ph.D Industrial Engineering and Logistic Management 9/2014 – 6/2018 (expected)
  - Relevant Coursework: Machine Learning, Introduction to Algorithms, Deterministic Models in Operation Research, Stochastic Models in Operation Research, Advanced Production Planning and Control, Engineering Statistics, Stochastic Calculus, Convex Optimization
- **Nanjing University (NJU)** Nanjing, Jiangsu
  B.Sc Mathematics 9/2010 – 6/2014
  - Relevant Coursework: Real Analysis, Mathematical Analysis, Advanced Algebra, Probability Theory, Stochastic Process, C++ Programming, Scientific Computing, Numerical Analysis

Research Interests

- Stochastic Modeling and Optimization, Machine Learning, Algorithms, Data Mining and Analysis

Research Experience

- **The Steady State of the Limit Order Book with Infinite Number of States** Hong Kong
  Research Topic, Supervisor: Prof. Jiheng Zhang, Dept. of IELM 1/2015 – present
  - All decisions made by buyers/sellers in the marked could be modeled by Poisson process
  - The limit (steady) state of the best prices among buyers and sellers was derived via queueing theory and probability theory
  - Working paper, still in progress
- **Crowd Analysis Prediction and Optimization** Hong Kong
  As a Research Assistant, Supervisor: Prof. Jiheng Zhang, Dept. of IELM 1/2016 – 6/2016
  - Performed statistical analysis on the data including building various models and estimating the parameters of those models
  - Based on the data, built queueing models to model the dynamics of crowd moving in and out of stations and trains
- **A Near-Optimal Algorithm for the Robust Convex Optimization** Hong Kong
  Convex Course Project, Instructor: Prof. Daniel P. Palomar, Dept. of ECE 9/2015 – 12/2015
  - Considered a general robust convex optimization problem, which had many unknown parameters in the constraint
  - Selected only finite number of unknown parameters from the given convex set, and then formed a standard convex problem which could be solved via package cvx in MatLab
  - Regarded above result as an approximation to the solution of original problem
- **Time-Based Competition with Benchmark Effects** Nanjing, Jiangsu
  Undergraduate Thesis, Instructors: Houcai Shen, Ting Wu 9/2013 – 6/2014
  - Considered a duopoly where firms competed on waiting times in the presence of an industry benchmark, which was endogenous and depended on both firms' choices
  - One firm was the leader (offered its waiting time first), another firm was the follower. The demand captured by a firm depended on the gap between the firm's offer and the benchmark
  - When the benchmark was equal to the shorter of the two offered delays, we proved the uniqueness of the Stackelberg Nash equilibrium and obtained its closed form expression

Skills

- **Programming and Software:** Python, MatLab, Mathematics, SQL
- **Languages:** English (Fluent)

Awards and Honors

Awarded postgraduate studentship (The Hong Kong University of Science and Technology) . . 2014 – present
Awarded school outstanding student graduate (Nanjing University) 2014
Second Prize, People Scholarship (Top 5%, Awarded by Ministry of Education, China) 2012, 2013
Awarded one of the first academic honor committee members in the student academic community . . . 2012
Awarded Fundamental Mathematics Scholarship (Dept. of Mathematics, Nanjing University) 2011, 2012, 2013
Third Prize, People Scholarship (Top 15%, Awarded by Ministry of Education, China) 2011
Awarded school outstanding student cadre (Nanjing University) 2011
First Prize at Olympic Mathematics Competition, Jiangsu Province 2009

Extracurricular Activities

Participant, academic communications of Mathematics, Peking University 8/2012
Participant, four-universities summer campaign of Mathematics, Xiamen University 8/2011
Co-founder, student academic community of top student training program, Nanjing University . . 2/2011
Core member, table tennis team, Dept. of Mathematics, Nanjing University . . . . . 9/2010 – 6/2014
Monitor, Dept. of Mathematics, Nanjing University . . . . . 9/2010 – 6/2014