

CHIA-HAO CHANG

(737) 224-0338

chiahao.chang@columbia.edu

<http://www.columbia.edu/~cc4626/>

EDUCATION

Columbia University	New York City, NY	Sep 2020-present
• Ph.D. in Operations Research • Graduate Coursework: Optimization (I) and (II), Stochastic Modeling (I) and (II), Convex Optimization, Analysis of Algorithms (I), Game Theory • Tang's family fellowship.		
The University of Texas at Austin (UT Austin)	Austin, TX	Aug 2018 – May 2020
• M.S. in Decision, Info. and Commun. Engr. (DICE), Electrical and Computer Engineering (ECE) • Advisor: Prof. John Hasenbein and Prof. Thomas Wiseman • Thesis: Effects of Patient Heterogeneity in a First-Come-First-Serve Kidney Transplant Model • Graduate Coursework: Probability and Stochastic Processes, Large Scale Optimization, Linear Programming, Analysis and Design of Communication Networks, Game Theory, Queueing Theory, Theory of Probability (I), Theory of Probability (II), Statistical Machine Learning		
National Taiwan University (NTU)	Taipei, Taiwan	Sept 2013 – Jan 2018
• B.S. in Electrical Engineering (EE) with minor in Physics (Phys) • NTU Presidential Award for 3 semesters: Awarded to students ranked within the top 5% in each semester.		

RESEARCH INTEREST

My research interest lies in the interaction of game theory, optimization and dynamic decision making.

Game Theory

- Learning in Games
- Dynamic Games

Dynamic Decision Making

- Stochastic Optimal Control and Stochastic Dynamic Programming
- Multi-armed Bandit

RESEARCH EXPERIENCE

Game Theory	with Prof. Thomas Wiseman	June 2019 – Dec 2019
• Dynamic game model for staged financing. • Investigate the effects of signal structure on the associated perfect Bayesian equilibria.		
Strategic Queues	with Prof. John Hasenbein	Jan 2019 – Dec 2019
• Game-theoretic queueing models for kidney transplantation. • Analyze the parameter sensitivity in a novel way- approximate the originally complex MDP and perform analysis on each approximated MDP; show the approximated MDPs converge to the original MDP. • Presented at <i>INFORMS Annual Conference 2019</i>.		
Wireless Communication	with Prof. Jean-Fu Kiang	Feb 2017 – Jan 2018
• Developed a novel transmission scheme of a cognitive wireless-powered communication network. • Proposed a subproblem that efficiently solved the originally non-convex optimization problem and proved the relation between two problems.		
Electromagnetics and Fluid Mechanics	with Prof. Jean-Fu Kiang	Sept 2015 – Jan 2017
• Implemented MATLAB programs to solve Navier-Stokes Equations and simulated the hypersonic regime of aerodynamics.		

PUBLICATION

- Chia-Hao Chang and John Hasenbein: Effects of patients' heterogeneity on patients' choice in a first-come-first-serve kidney transplant system, *in preparation*.

TALKS

INFORMS Annual Conference 2019	Seattle, WA	Oct 2019
• Session: WB11 - Queueing Approximations and Strategic Queues.		

HONORS

High School Physics Contest Winner	Kaohsiung, Taiwan	Oct 2012
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- First prize and representative of Kaohsiung City.

Selection Test for International Physics Olympiad	Taiwan	Nov 2012
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- Second round

TEACHING EXPERIENCE

Teaching Assistant	Columbia University	Spring 2021
• IEOR 4102: Stochastic Modeling for MSE (50 students) • IEOR 4102: Stochastic Models (107 students)		

Teaching Assistant	NTU	Sept 2016 – Jan 2017
• Volunteered-Service Learning Class		

EMPLOYMENT

Mandatory Military Service	Tainan, Taiwan	Feb 2018 – June 2018
• Private, Taiwan Army.		

Private Tutoring	Taipei, Taiwan	Sept 2014 – Jan 2018
• High school physics and mathematics.		

LEADERSHIP AND EXTRACURRICULAR ACTIVITIES

Attendee	Texas Wireless Summit	Nov 2018
• Student attendee of Texas Wireless Summit held at UT Austin (Topic of the summit: AI and the Mobile Device).		

Club Leader	NTU Kind-kids Club	Feb 2016 – June 2016
• Leader of a seventy-four person voluntary club.		

Club Member	NTU Kind-Kidds Club	Sept 2013 – June 2017
• Weekly volunteered curricular service at Bethany Orphanage, Taipei, Taiwan.		

Camp Activity Organizer	NTUEE Summer Camp	July 2014
• Held a summer camp dedicated for high school students to get to know electrical engineering.		

TECHNICAL SKILLS

Programming Languages

- MATLAB, Python, $\text{\LaTeX}$

Spoken Languages

- Chinese(native), Taiwanese(native), English(fluent)