

CHIA-HAO CHANG

(737) 224-0338
cc4626@columbia.edu
<http://www.columbia.edu/~cc4626/>

EDUCATION

Columbia University <ul style="list-style-type: none">• Ph.D. in Operations Research• Advisor: Vineet Goyal• Graduate Coursework: Optimization (I) and (II), Stochastic Modeling (I) and (II), Analysis and Probability[♣], Probability (II)[♣], Convex Optimization, Matching Markets and Algorithms, Theoretical Statistics (I), Analysis of Algorithms (I), Game Theory• Tang's family fellowship.	New York City, NY	Sep 2020-present GPA: 4.06/4.00
The University of Texas at Austin (UT Austin) <ul style="list-style-type: none">• 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	Austin, TX	Aug 2018 – May 2020 GPA: 4.0/4.0
National Taiwan University (NTU) <ul style="list-style-type: none">• 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.	Taipei, Taiwan	Sept 2013 – Jan 2018 GPA: 4.15/4.30

RESEARCH INTEREST

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

Dynamic Decision Making

- Stochastic Optimal Control and Stochastic Dynamic Programming
- Approximation of large scale Markov decision processes

Game Theory

- Learning in Games
- Inference in strategic settings

RESEARCH EXPERIENCE

Large Scale MDP <ul style="list-style-type: none">• Large Scale MDP model for proactive service in hospital. Characterize the structural properties in the associated fluid approximation.• Design an algorithm which coordinates the current resource and future demand.	with Prof. Vineet Goyal	June 2021-present
Large Scale Game Solving <ul style="list-style-type: none">• Investigating the possibility of mirror descent to solve large Scale games, with variance reduction.	with Prof. Christian Kroer	Sep 2020 – Apr 2021
Game Theory <ul style="list-style-type: none">• Dynamic game model for staged financing; investigate the effects of signal structure on the associated perfect Bayesian equilibria.	with Prof. Thomas Wiseman	June 2019 – Dec 2019
Strategic Queues <ul style="list-style-type: none">• Game-theoretic queueing models for kidney transplantation; analyzed the parameter sensitivity in the MDP.• Presented at <i>INFORMS Annual Conference 2019</i>.	with Prof. John Hasenbein	Jan 2019 – Dec 2019

TALKS

INFORMS Annual Conference 2019 <ul style="list-style-type: none">• Session: WB11 - Queueing Approximations and Strategic Queues.	Seattle, WA	Oct 2019
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[♣]: Math. Dept.: A+.

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	
<ul style="list-style-type: none">• IOR 4102: Stochastic Modeling for MSE• IOR 4106: Stochastic Models• IOR 4106: Stochastic Models• IOR 3609: Advanced Optimization• IOR 6711: Stochastic Modeling (I) (Ph.D. core)		Spring 2021 Spring 2021 Fall 2021 Spring 2022 Fall 2022
Teaching Assistant	NTU	Sept 2016 – Jan 2017
<ul style="list-style-type: none">• Volunteered-Service Learning Class		

EMPLOYMENT

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

LEADERSHIP AND EXTRACURRICULAR ACTIVITIES

Club Leader	NTU Kind-kids Club	Feb 2016 – June 2016
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- Leader of a seventy-four person voluntary club which I participated from freshman to senior.

TECHNICAL SKILLS

Programming Languages

- MATLAB, Python, \LaTeX

Spoken Languages

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