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Chia-Hao Chang

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Education

The University of Texas at Austin (UT Austin) — **Austin, TX** — **Aug 2018 – present**

- **M.S. in Decision, Info. and Commun. Engr. (DICE), Electrical and Computer Engineering (ECE)** — **GPA: 4.0/4.0**
- **Advisor**: Prof. John Hasenbein and Prof. Thomas Wiseman
- **Graduate Coursework:** Probability and Stochastic Processes, Large Scale Optimization, Linear Programming, Analysis and Design of Communication Networks, Game Theory, Queueing Theory(ongoing), Theory of Probability(ongoing)

National Taiwan University (NTU) — **Taipei, Taiwan** — **Sept 2013 – Jan 2018**

- **B.S. in Electrical Engineering (EE) with minor in Physics (Phys)** — **GPA:4.15/4.30**
- **NTU Presidential Award for 3 semesters**: Awarded to students ranked within the top 5% in each semester.
- **Relevant Courses**: Mathematical Analysis (I), Probability and Statistics, Calculus (I) and (II), Discrete Mathematics, Linear Algebra, Differential Equation, Signals and Systems, Principle of Communications

Research Interest

Stochastic Processes

- Stochastic Modeling and Stochastic Systems
- Stochastic Optimal Control

Mathematical Economics

- **Dynamic Game Theory**: Strategic Experimentation, Learning and Information Aggregation in Games
- **Decision Theory**: Decision Theory, Choice Theory, Subjective Probability

Research Experience

Game Theory — **with Prof. Thomas Wiseman** — **June 2019 – present**

- 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 – present**

- Game-theoretic queueing models for kideny 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 *INFORMS Annual Conference 2019*.

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 — **Kaohsiung, Taiwan** — **Oct 2012**
Winner

- First prize and representative of Kaohsiung City.

Selection Test for International Physics Olympiad — **Taiwan** — **Nov 2012**

- Second round

Teaching Experience

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, LaTeX

Spoken Languages

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