

## Education

- 2023 – present **The University of Utah**,  
*Doctor of Philosophy*, Mathematics.  
First-year Ph.D. student in the Stochastics Group.
- 2020 – 2022 **National Taiwan University**,  
*Master of Science*, Communication Engineering.  
Cumulative GPA – 4.3.
- 2015 – 2020 **National Taiwan University**,  
*Bachelor of Science*, Major in Electrical Engineering, Minor in Mathematics.  
Cumulative GPA – 4.28.
- Jul 2018 – **Summer School Program**, *Institute of Mathematics, Academia Sinica*.  
Aug 2018 Course: Mathematical Signal Processing and Data Analysis

## Honors & Awards

- Jun 2022 **Honorary Membership**, *The Phi Tau Phi Scholastic Honor Society of the Republic of China*.
- May 2019 **Dr. Shih-Liang Chien Memorial Award**, *National Taiwan University*.
- 2015 – 2018 **Dean's List, 6 times**, *National Taiwan University*.

## Research Interests

Probability Theory, Theoretical Statistics, Optimization.

## Research Experience

- Jan 2022 – Jun 2022 **Graduate Research Assistant**, *Graduate Institute of Communication Engineering, National Taiwan University*.
- **Advisor:** Borching Su
  - Thesis: Waveform Design for Optimal Correlations under Spectral Constraints via Alternating Minimization (A+)
  - Applied optimization methods to design a radar waveform.
- Sep 2020 – Dec 2021 **Graduate Research Assistant**, *Graduate Institute of Communication Engineering, National Taiwan University*.
- **Advisor:** Hao-Chung Cheng
  - Conducted a literature review on quantum state discrimination, quantum tomography, and quantum stochastic processes.

## Teaching Experience

- Sep 2021 – June 2022 **Teaching Assistant**, *Department of Mathematics*.
- Courses: Calculus (General Mathematics) (b)(1&2) (MATH 1203 & MATH 1204)
  - Instructor: Prof. Ping-Zen Ong
  - Assisted the instructor in setting and grading examinations.
  - Held weekly office hours to help students with their assignments.
- Feb 2021 – Jun 2021 **Teaching Assistant**, *Department of Electrical Engineering, National Taiwan University*.
- Courses: Probability and Statistics (EE 2007)
  - Instructor: Prof. Hung-Yun Hsieh
  - Assisted the instructor in preparing and grading examinations.
  - Taught an online recitation to help students with the lectures.

Sep 2020 – **Teaching Assistant**, *Department of Electrical Engineering, National Taiwan University.*

Jan 2021

- Courses: Engineering Mathematics-Linear Algebra (EE 1002)

- Instructor: Prof. Mao-Chao Lin

- Assisted the instructor in creating and grading examinations.

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## Selected Projects

Jun 2021 **Quantum State Discrimination** [[Project](#)].

- Discussed a variety of optimal measurements.

- Derived the optimal measurements for some cases by the KKT conditions.

Jun 2021 **Introduction to Nonlinear Programming-Term Project** [[Project](#)].

- Solved the MLE to fit the score distribution of the students taking EE 2007 via non-linear programming methods.

Dec 2020 **Stochastic Process-Change of Measure and Radon-Nikodým Derivative** [[Project](#)].

- Inspected the mathematical foundations of the actual and risk-neutral probability measures.

- Clarified the connection between these two relevant probability measures.

Jun 2020 **Quantitative Lebesgue Differentiation Theorem and Regularity Lemma** [[Project](#)].

- Refined some notions in soft analysis.

- Proved the following theorems and lemmas:

- Lebesgue approximation theorem for a set

- Lebesgue approximation theorem for a function

- Quantitative Lebesgue differentiation theorem

- Lebesgue regularity lemma

- Strong Lebesgue regularity lemma.

Jun 2019 **Simulation of Modulation Techniques in LTE** [[Project](#)].

- Performed simulations concerning PAPR and SER for OFDMA and SC-FDMA with different subcarrier mappings.

Jan 2019 **Approximation Theorems of Mathematical Statistics** [[Project](#)].

- Discussed the basic description, martingale structure, and the projection of a U-statistic.

- Derived the variance of the sample variance via U-statistics.

May 2018 **Measure of Diagnostic Accuracy** [[Project](#)].

- Summarized various diagnostic accuracy measures.

- Explored relations among sensitivity, specificity, and hypothesis testing to analyze data.

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## Skills

Language Mandarin (Native), English (Proficient).

Programming R, LaTeX, Matlab, Python.

Language