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# Houlin Chen

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## EDUCATION

### University of Toronto

**Honours Bachelor of Science**, Double Majors in Mathematics and Statistics

Fall 2020 – Winter 2024

Mathematics: Groups and Symmetries, Complex Variables, and Nonlinear Optimization.

Statistics: Methods of Data Analysis I, Methods for Multivariate Data, and Applied Bayesian Statistics.

### Renmin University of China and Nankai University

**Visiting Student**

Summer 2021

## RESEARCH EXPERIENCE

### University of Toronto

Toronto, ON, CA

**Machine Learning Project**, Undergraduate Research Assistant

Jan 2022 - Mar 2023

- Established a 3D indoor positioning system based on a radio frequency sensor capturing small-scale fading and Gaussian process regression [1].
- Developed a dynamic data driven application system based on signals of opportunity with Dirichlet process clustering and ensemble learning [2].

### Renmin University of China and Nankai University

Beijing and Tianjin, CN

**Sociology Research Project**, Undergraduate Research Assistant

May 2021 - Aug 2021

- Engaged in extensive debates with professors and students in different countries on love, marriage, and sexuality, higher education, and health.
- Composed 3 three short commentaries on subjects of agrarian reform, family planning, and the growth of underground LGBTQ+ organizations in China.
- Wrote a perspective paper about the solution of violent law enforcement of urban management.

## INTERNSHIP

### AP Lazer

Windsor, ON, CA

**Marketing Data Analysis**

Sep 2022 – Present

- Organizing and summarizing the marketing sales, as well as various data details under each campaign, providing a comprehensive understanding of marketing efforts.
- Running both paid search campaigns on Google and paid social media campaigns on Meta Facebook, calculating Return on Investment (ROI), and creating summary and comparison tables for these ad reports.
- Analyzing the performance of each campaign, ad group, and individual ad from Google Advertisement and Meta Facebook.
- Combining the static information from the Customer relationship management (CRM) program to provide a highlighted and simplified data table, and providing guidance for the marketing team to improve the ads.

## PUBLICATION

- [1] L. Yuan, H. Chen, R. Ewing, and J. Li, "Passive Radio Frequency-based 3D Indoor Positioning System Via Ensemble Learning," *Dynamic Data Driven Applications Systems (DDDAS) 2022*, arXiv:2304.06513, Oct. 2022. (Oral Presentation, Book Chapter).
- [2] L. Yuan, H. Chen, R. Ewing, E. Blasch, and J. Li, "Three Dimensional Indoor Positioning Based on Passive Radio Frequency Signal Strength Distribution," *IEEE Internet of Things Journal*, vol. 10, no. 15, pp. 13 933–13 944, Mar. 2023.

## ACADEMIC SERVICE

### Journal Reviewer

IEEE Access

2023 – Present

### Membership

Association for Computing Machinery (ACM)

2023 – Present

American Statistical Association (ASA)

2023 – Present

Institute of Electrical and Electronics Engineers (IEEE)

2023 – Present

## AWARD

University of Toronto Entrance Scholarship

Fall 2020

## SKILL

### Tools

R Studio, Python, Matlab

### Languages

Markdown,  $\text{\LaTeX}$ , Overleaf

### Communication

Chinese (native), English (IELTS: 7.0, GRE: 332)