# Winston Chen

Email: [chenwt@umich.edu](mailto:chenwt@umich.edu) | Website: [winstonchenn.github.io](https://winstonchenn.github.io) | LinkedIn: [winstonchenn](https://linkedin.com/in/winstonchenn)

## RESEARCH INTEREST

I am interested in enabling reliable and interpretable AI-driven decision-making in healthcare, leveraging causal inference and explainable AI. To date, my work has focused on discovering non-additive interactions in deep neural networks and improving treatment effect estimation by explicitly accounting for patient non-compliance.

## EDUCATION

- **University of Michigan** *2023 - present*
  *Ph.D. in Computer Science & Engineeering* Ann Arbor, Michigan
  ◦ Advisor: Jenna Wiens

- **University of Washington** *2018 - 2022*
  *B.S. in Electrical Engineeirng* Seattle, Washington
  ◦ Advisor: William Stafford Noble

## PUBLICATIONS & PREPRINTS    C=CONFERENCE, J=JOURNAL, S=IN SUBMISSION

[C.1] **Winston Chen**, Yifan Jiang, William Stafford Noble, Yang Young Lu, [Error-controlled Interaction Discovery in Deep Neural Networks](#), in *NeurIPS 2024 workshop on Interpretable AI: Past, Present and Future*, Dec. 2024.

[S.1] **Winston Chen**, Trenton Chang, Jenna Wiens, **Heterogeneous Treatment Assignment Effect Estimation Under Non-compliance with Conditional Front-door Adjustment**, Under review.

[S.2] **Winston Chen**, Yifan Jiang, William Stafford Noble, Yang Young Lu, [Error-controlled Non-additive Interaction Discovery in Machine Learning Models](#), Under review.

[C.2] **Winston Chen**, William Stafford Noble, Yang Young Lu, [DeepROCK: Error-controlled Interaction Detection in Deep Neural Networks](#), in *Machine Learning in Computational Biology 2023*, Nov. 2023.

## INDUSTRY EXPERIENCE

- **RealNetworks** *Sept. 2022 - Sept. 2023*
  *R&D Intern. Mentor: Reza Rassool* Seattle, Washington
  ◦ Designed facial recognition-based general encryption algorithm.
  ◦ Developed a mobile app for showcasing the encryption technology.

- **NVIDIA** *Jun. 2021 - Sept. 2021*
  *Software Engineering Intern, Mentor: Johnny Israeli* Remote
  ◦ Designed and implemented a software log analysis framework for assisting the development of Parabricks genomics data analysis suite.

## SERVICES

- **Program Sub-Chair,** Machine Learning for Health Symposium (ML4H) Symposium (2024 - current)

- **Reviewer,** International Conference on Artificial Intelligence and Statistics (AISTATS)

- **Secretary,** Computer Science & Engineering Graduate Student Organization, University of Michigan (2024 - Present)

## HONORS AND AWARDS

- **Rackham Graduate Research Fellowship** *Autumn 2023*

  *University of Michigan*
  ◦ Merit-based fellowship covering the first year tuition and stipends of the Ph.D. program.

- **Mary Gates Research Scholarship** *Spring 2021*

  *University of Washington*
  ◦ $5000 award for excellent undergraduate research in interpretable machine learning.

- **Lawrence & Lucille Frey Endowed ECE Scholarship** *Autumn 2020*

  *University of Washington*
  ◦ $1000 award for Electrical & Computer Engineering (ECE) student with high academic excellency.

- **Herschel & Caryl Roman Scholarship** *Summer 2020*

  *University of Washington*
  ◦ $2500 award for undergraduate research in genomics.

## TEACHING EXPERIENCE

- **Teaching Assistant, EE 241 (Programming for Signal and Information Processing)** *Spring 2022*

  *University of Washington*
  ◦ Held weekly office hours and lab sessions for around 40 students on Python programming.

- **Teaching Assistant, EE 215 (Fundamentals of Electrical Engineering)** *Winter 2021 & 2022*

  *University of Washington*
  ◦ Held weekly review sessions and graded homework for around 20 students on fundamental circuit analysis.

- **Teaching Assistant, EE 271 (Digital Circuit and System)** *Autumn 2021*

  *University of Washington*
  ◦ Held weekly lab sessions and graded projects for around 40 students on FPGA programming.