Winston Chen

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Research Interest

I am interested in enabling reliable AI-driven decision-making in real-world applications, leveraging causal inference, reinforcement learning, and explainable AI. Recently, I worked on developing causal ML method to improve treatment effect estimation, evaluating AI models under intervention, and discovering interactions in deep neural networks.

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**, Trenton Chang, Jenna Wiens, **Conditional Front-door Adjustment for Heterogeneous Treatment Assignment Effect Estimation Under Non-adherence**, in *Conference on Health Inference and Learning (CHIL)*, June 2025.

[J.1] **Winston Chen**, Yifan Jiang, William Stafford Noble, Yang Young Lu, **Error-controlled Interaction Discovery in Deep Neural Networks**, in *Nature Machine Intelligence*, (Previously presented at *NeurIPS 2024 workshop on Interpretable AI: Past, Present, and Future* and *MLCB 2023*), Feb. 2025.

[S.1] **Winston Chen**, Michael W. Sjoding, Jenna Wiens, **Measuring Model Performance in the Presence of an Intervention**, in *Under review*, July 2025.

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)
- **Reviewer,** International Conference on Artificial Intelligence and Statistics (AISTATS)
- **Secretary,** Computer Science & Engineering Graduate Student Organization, University of Michigan (2024 - 2025)

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.