# Xingran Chen

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## EDUCATION

**University of Michigan** — Ann Arbor, MI, USA
Doctor of Philosophy in Biostatistics — *Aug. 2024 - Present*
- Co-advised by Dr. Zhenke Wu and Dr. Bhramar Mukherjee

**University of Michigan** — Ann Arbor, MI, USA
Master of Science in Biostatistics — *Aug. 2022 - May. 2024*
- Outstanding First-Year Masters Student Award

**Shanghai University of Finance and Economics** — Shanghai, China
Bachelor of Science in Statistics (Data Science track) — *Sept. 2017 - Jun. 2021*

## RESEARCH EXPERIENCE

**Research Assistant (Supervisor: Dr. Bhramar Mukherjee & Dr. Zhenke Wu)** — *May. 2024 - present*
University of Michigan
- Conduct research on synthetic electronic health record (EHR) data generation, focusing on benchmarking existing methods and evaluating their effectiveness on open-source datasets MIMIC-III and MIMIC-IV;
- Develop and release a Python package (SynthEHRella) for benchmarking the synthetic EHR generation methods;
- Develop a benchmark for prediction-based methods on EHR-linked biobank data (ongoing work).

**Research Assistant (Supervisor: Dr. Zhenke Wu)** — *Jan. 2023 - present*
University of Michigan
- Develop a unified framework for valid statistical inference after machine learning imputation for data with general missing patterns and missing at random assumption (PS-PPI);
- Conduct simulation study and data experiments on *All of Us* data to illustrate the usage of the method.

**Research Assistant (Supervisor: Wanyun Cui)** — *Jul. 2020 - July.2022*
Shanghai University of Finances and Economics
- Introduced a novel instance-based reasoning method (IBLE) for improving knowledge graph completion. (NeurIPS 2022)
- Proposed a new rule induction system utilizing implicit knowledge stored in language models (Orion). (NeurIPS 2021)
- Designed an efficient approach for textual knowledge integration (OK-Transformer). (ACL 2022 Findings, ACL 2023)

## SELECTED PUBLICATIONS & PREPRINT

**Prediction-based Inference in Electronic Health Record (EHR)-linked Biobanks with Clinically Informative Outcomes.**
**Xingran Chen**, Cheng-Han Yang, Zhenke Wu, Bhramar Mukherjee *arXiv preprint arXiv:2603.14356*

**A Unified Framework for Inference with General Missingness Patterns and Machine Learning Imputation.**
**Xingran Chen**, Tyler McCormick, Bhramar Mukherjee, Zhenke Wu *arXiv preprint arXiv:2508.15162*

**Generating Synthetic Electronic Health Record Data: a Methodological Scoping Review with Benchmarking on Phenotype Data and Open-Source Software.**
**Xingran Chen**, Zhenke Wu, Xu Shi, Hyunghoon Cho, Bhramar Mukherjee. *Journal of the American Medical Informatics Association*

**Free Lunch for Efficient Textual Knowledge Integration in Language Models.**
Wanyun Cui, **Xingran Chen**. *ACL 2023*

**Exploring Automatically Perturbed Natural Language Explanations in Relation Extraction.**
Wanyun Cui, **Xingran Chen**. *ACL 2023 Findings*

**Instance-based Learning for Knowledge Base Completion.**
Wanyun Cui, **Xingran Chen**. *NeurIPS 2022*

**Open Rule Induction.**
Wanyun Cui, **Xingran Chen**. *NeurIPS 2021*

**Enhancing Natural Language Representation with Large-Scale Out-of-Domain Commonsense.**
Wanyun Cui, **Xingran Chen**. *ACL 2022 Findings*

**Enhance Causal Span Detection via Beam-Search-based Position Selector.**
**Xingran Chen**, Ge Zhang, Adam Nik, Yuming Li, Jie Fu. *CASE Workshop in EMNLP 2022 (Oral)*

## AWARDS

- Distinguished Student Paper Award (ENAR 2026) 2026
- Excellence in Research Award (UMICH) 2025
- Rackham International Student Fellowship (UMICH) 2025
- First Place of Student Poster Competition at ICSA Midwest Chapter and NIC-ASA Joint Fall Conference 2025 2025
- MICDE Fellowship (UMICH) 2025
- Best Poster Award at the 2025 Michigan Student Symposium for Interdisciplinary Statistical Science (MSSISS 2025) 2025
- Outstanding Graduate Studnet Instructor Award (UMICH) 2024
- Outstanding First-Year Masters Student Award (UMICH), 2023
- Third Prize of Shanghai University Science and Technology Innovation Contest, 2021
- Provincial Third Prize of Contemporary Undergraduate Mathematical Contest in Modeling, 2019
- Third Prize of Statistical Contest in Modeling (SHUFE), 2018
- Shanjia Scholarship (SHUFE). 2018

## SERVICES

**Teaching**

Teaching Assistant: BIOSTAT 521 - Applied Biostatistics (UMICH) Fall 2025
Teaching Assistant: BIOSTAT 602 - Biostatistical Inference (UMICH) Winter 2025
Teaching Assistant: BIOSTAT 653 - Theory and Application of Longitudinal Analysis (UMICH) Fall 2024
Teaching Assistant: BIOSTAT 602 - Biostatistical Inference (UMICH) Winter 2024
Teaching Assistant: BIOSTAT 650 - Theory and Application of Linear Regression (UMICH) Fall 2023

**Academic Reviewer**

AAAI 2025
ICLR 2024, 2025
ICML 2024, 2025, 2026
ACL Rolling Review Oct./Dec. 2023, Aug. 2024
NeurIPS 2023, 2025
ACL 2023
EMNLP 2022, 2023
CASE Workshop @ EMNLP 2022
CSAE 2022

**Departmental Service**

Member, Peer Mentoring Committee, Department of Biostatistics, University of Michigan 2025-present
Organizer, Graduate Student Working Group, Department of Biostatistics, University of Michigan 2022-present

## SKILLS

**Programming** `Python, R, SAS, SQL, C++`
**Languages** `Mandarin, English, Japanese (JLPT N2 150)`