Quanhan (Johnny) Xi

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Education

The University of British Columbia – Vancouver, B.C., Canada
Ph. D., Statistics
Supervisor: Benjamin Bloem-Reddy.

2022 **The University of British Columbia** – Vancouver, B.C., Canada
M. Sc., Statistics
Thesis Title: *Indeterminacy in Latent Variable Models: Characterization and Strong Identifiability*. *GPA: 95.7 %*.

2020 **University of Ottawa** – Ottawa, ON, Canada
B. Sc., Statistics, minor in Management
Research Advisor: Chen Xu. *Summa Cum Laude. GPA: 9.27/10.*

Awards

2023–2026 NSERC Canada Graduate Scholarships–Doctoral (CAD $ 35,000 p.a.)

2022–2026 UBC 4 Year Fellowship (CAD $ 23,200 in 2022, no monetary value 2023–2026)

2021 CD Howe Graduate Fellowship (CAD$ 16,000)

2020–2025 Graduate Support Initiative Award (CAD $ 5,000 p.a.)

2020 MITACS Research Training Award (CAD $ 6,000)

2020 NSERC USRA (CAD $ 4,500)

Papers

2023 **Xi, Q.**, Gonzalez, S., Bloem-Reddy, B. *Triangular Monotonic Generative Models Can Perform Causal Discovery*. NeurIPS 2023 Workshop on Causal Representation Learning.

2023 **Xi, Q.**, Bloem-Reddy, B. *Indeterminacy in Generative Models: Characterization and Strong Identifiability*. AISTATS 2023 (**Oral Presentation, 32/1689 of Reviewed Papers**).

2022 Rudman, D., **Xi, Q.**, Packer, J., Tousignant, K. *Reliability of HSS Cross-connections in Branch Axial Compression*. American Institute of Steel Construction (AISC) Engineering Journal 59, 4.

2021 **Xi, Q.**, Bloem-Reddy, B. *Multiple Environments Can Reduce Indeterminacy in VAEs*. NeurIPS 2021 Workshop on Causal Inference & Machine Learning: Why now? (WHY-21).

2021 **Xi, Q.**, Packer, J. *Assessing the Probabilistic Assumptions Behind Structural Reliability via Simulation*. Springer Lecture Notes in Civil Engineering 241. Proceedings of the Canadian Society for Civil Engineering (CSCE) 2021 Annual Conference.

2020 Gong, T., **Xi, Q.**, Xu, C. *Robust Gradient-based Markov Subsampling*. AAAI 2020.

Presentations

2023 *The Statistical Structure of Identifiable Generative Models*.
CARE Reading Group hosted by Valence Labs, Virtual.

2023 *Indeterminacy in Generative Models: Characterization and Strong Identifiability*.
Statistical Society of Canada Annual Meeting (SSC 2023), Ottawa, Canada.

2023 *Indeterminacy in Generative Models: Characterization and Strong Identifiability*.
Poster and Presentation at AISTATS 2023, Valencia, Spain.

2022 *Indeterminacy in Generative Models: Characterization and Strong Identifiability*.
Generative Models and Uncertainty Quantification Workshop (GenU 2022), Copenhagen, Denmark.

2022 *Identification of Latent Variables in Generative Modeling*.
UBC/SFU Joint Seminar, Spring 2022, Vancouver, Canada.

2021 *Assessing the Probabilistic Assumptions Behind Structural Reliability via Simulation*.
Canadian Society for Civil Engineering (CSCE) 2021 Annual Conference, Virtual.

Other Experience

2023 **Machine Learning Research Intern**
Valence Labs at Recursion Pharmaceuticals.
Supervisor: Jason Hartford.
Multimodal analyses of high-throughput biology and causal representation learning.

2021 – 2023 **Statistical Consultant**
Department of Statistics, The University of British Columbia.
Providing statistical consulting services as part of the Applied Statistics and Data Science (ASDa) group.

2020 – 2021 **Research Assistant**
Department of Civil and Mineral Engineering, University of Toronto.
Supervisor: Jeffrey Packer.
Monte Carlo simulation for reliability analyses of structural connections.

2019 – 2020 **Undergraduate Research Assistant**
Department of Mathematics and Statistics, University of Ottawa.
Supervisor: Chen Xu.
Designing novel algorithms for sub-sampled regression analysis with very tall data.

Teaching

2020 – **Graduate Teaching Assistant**
Department of Statistics, The University of British Columbia.
STAT251 (Elementary Statistics), STAT344 (Sample Surveys), STAT547C (Graduate Probability Theory). Office hours, assignment/exam grading.

Service

Reviewing AISTATS 2023, ICML 2022 Workshop on Spurious Correlations, Invariance and Stability

Volunteering AISTATS 2023, UBC Statistics graduate student association (SGSA)