# Yu, Zijun

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## Education

**2025 – Present** **Ph.D. in Mathematics and Statistics**
McGill University, Montreal, QC
Research Interest: Neural Networks, Survival Analysis

**2016 – 2020** **B.Sc. Honours in Statistics and Computer Science**
McGill University, Montreal, QC
First-Class Honours Degree

## Awards and Scholarships

- **Graduate Excellence Award** 2025-
- **ISM Graduate Scholarship** 2025-2026
- **First-Class Honours Degree** 2020
- **Science Undergraduate Research Award (SURA)** 2019
- **James McGill Scholarship** 2016

## Publications and Presentations

- Pengqi Liu†, **Zijun Yu**†, Mouloud Belbahri, Arthur Charpentier, Masoud Asgharian, Jesse C. Cresswell. "Beyond Procedure: Substantive Fairness in Conformal Prediction." *International Conference on Machine Learning (ICML)*, 2026. arXiv:2602.16794
- Yu Gu†, **Zijun Yu**†, Vahid Partovi Nia, Masoud Asgharian. "Pause and Reflect: Conformal Aggregation for Chain-of-Thought Reasoning." *Under review*, 2026. arXiv:2605.14098
- Yu Gu†, **Zijun Yu**†, Chi-Kuang Yeh, Xinyu Wang, Ziyang Song. "Severity-Controlled Prediction Sets for Medication Recommendation." *Under review*, 2026.

† Equal contribution.

## Work Experience

**2025 – 2026** *Mitacs Internship — Student Researcher*
Layer6 AI, Toronto

- Conducted research on substantive fairness in conformal prediction, contributing to the paper "Beyond Procedure: Substantive Fairness in Conformal Prediction" (ICML 2026).
- Designed and architected a modular codebase to support large-scale experiment pipelines, enabling reproducible benchmarking across multiple fairness criteria, datasets, and model families.
- Collaborated with research scientists on theoretical analysis and empirical validation.

**2020 – 2024** *Software Developer*
OneDesk Inc., Montreal

- Incorporated data analysis and visualization capabilities into existing software solutions

- Implemented a Retrieval-Augmented Generation (RAG) chatbot workflow with web crawler, vector database, and OpenAI APIs.
- Developed third-party integrations and plugins for platforms such as Microsoft Teams App, Google OAuth, WordPress Plugin, Stripe payment processing, and Intuit invoice processing.
- Applied time-series analysis and correlation to analyze system logs, monitor system performance, and identify trends.
- Redesigned and refactored both frontend and backend systems to fix memory leaks and resolve data inconsistencies, ensuring robustness under race conditions and optimizing performance.
- Led a team of junior developers, providing mentorship and supervision across multiple projects. Coordinated team efforts to meet project goals efficiently.

## Technical Skills

Python, R, Java (Spring, Maven, GraalVM), TypeScript (React, Deno), Redis
SQL (PostgreSQL), Virtualization (Docker, Proxmox VE), Version Control System (Git, Subversion)