

Michael S. Truong

 [emstruong](https://github.com/emstruong) |  mtruong@yorku.ca

EDUCATION

Ph.D. in Psychology (*Quantitative Methods*) 2022 - Present

York University

- Supervisor: *Dr. David B. Flora*

M.A. in Psychology (*Developmental Sciences*) 2022

York University

- Supervisors: *Drs. Thanujeni Pathman & W. Dale Stevens*
- Thesis: *Transfer Success on the Linda Problem: A Re-Examination Using Dual Process Theory, Learning Material Characteristics, and Individual Differences*

H.B.Sc in Neuroscience & Psychology 2020

University of Toronto

- Supervisor: *Dr. Morris Moscovitch*
- Project: *Temporal Order & Associative Memory*

A.R.C.T in Piano Performance 2015

Associate of The Royal Conservatory of Music Toronto

PROFESSIONAL & RESEARCH EXPERIENCE

R Library Contributor 2023 - Present

[My Github](#)

- [cSEM R Package](#)
 - Implementing Integrated Generalised Structured Component Analysis Trees
 - Harmonized GSCA-type modelling with overall infrastructure
 - Improved numerical stability and computational performance of algorithms
 - Updated test infrastructure
- [SimDesign R Package](#)
 - Quality assurance on package features via many Github bugs
 - Filed several successful feature requests
- [blavaan R Package](#)
 - Improved UX with new tidy-style *broom* methods
 - Improved UX with *brms* style default arguments

Statistical Consultant 2023 - 2026

York University

- [Statistical Consulting Service](#)

Doctoral Student 2022 - Present

York University

- Supervisor: *Dr. David B. Flora*
- Implemented novel machine learning structural equation modeling method in the R *cSEM* package called IGSCA Trees.
 - Conducted extensive Monte Carlo simulation study to evaluate statistical properties with field experts (Drs. Ji Yeh Choi and Florian Schuberth)
 - Presented and shared research findings at scientific conferences
- Investigated the statistical performance of frequentist and Bayesian multilevel models when cluster size plays a causal role
 - Studied using three simulation studies and more than 450 CPU core-years of supercomputer use.

Research Assistant 2024 - 2025
 York University
 • Supervisors: *Dr. Michael Friendly*
 • Reviewed and commented on Dr. Friendly's textbook on Multivariate Linear Models for both typographical and technical content.

Master's Student 2020 - 2022
 York University
 • Supervisors: *Drs. Thanujeni Pathman & W. Dale Stevens*

Teaching Assistant and Guest Lecturer 2020 - Present
 York University
 • MATH6627: Practicum for Statistical Consulting
 • PSYC6132: Univariate Analysis II: Regression
 • PSYC3430: Behaviour in Groups
 • PSYC2260: Cognition
 • PSYC2240: Biological Basis of Behaviour
 • PSYC2130: Personality
 • PSYC2030: Introduction to Research Methods
 • PSYC1010: Introduction to Psychology

Research Assistant 2019 - 2020
 Human Neuropsychology & Cognitive Science Lab, University of Toronto
 • Supervisors: *Dr. Morris Moscovitch & Nichole Bouffard*

Research Assistant 2018 - 2019
 Physiological Mechanisms of Memory in Health and Disease Lab, University of Toronto
 • Supervisors: *Dr. Kaori Takehara-Nishiuchi & Maryna Pilkiw*

AWARDS AND SCHOLARSHIPS

2026	York Conference Travel Fund	\$500
2025	York Conference Travel Fund	\$500
2025	SSHRC Doctoral Award	\$80,000
2025	Ontario Graduate Scholarship (Declined)	\$15,000
2024	Mirka Ondrak Award	NA
2024	York Conference Travel Fund	\$500
2024	Ontario Graduate Scholarship	\$15,000
2024	York Academic Excellence Fund	\$1200
2023	Canadian Psychological Association: Quantitative Methods Student Presentation Award	NA
2023	York Academic Excellence Fund	\$158
2022	Ontario Graduate Scholarship	\$15,000
2021	Certificate of Teaching Excellence Nominee (CCDP)	NA
2021	York Research Cost Fund	\$1,600
2021	York Academic Excellence Fund	\$2,000
2017-2020	Dean's List Scholar	NA
2020	Master's Training Scholarship (VISTA)	\$20,000
2019	James Morrow Scholarship	\$1,000
2018	Gordon Westaway Hilborn Scholarship	\$1,000
2016	University of Toronto Entrance Scholarship	\$2,000

PUBLICATIONS

Exploring the Multiverse with Decision Trees Under-Review
Truong MS., Crone G., & Choi J.Y.

What if Cluster Size is the Confound in Multilevel Models	Under-Review
<i>Truong MS., Zhang X., & Flora D.B.</i>	
Transfer of Learning to the Linda Problem Re-Examined: Explicit Versus Implicit Training Effects and Individual Differences as Predictors	Under-Review
<i>Truong MS., Pathman T., Stevens WD., & Toplak M.</i>	

PRESENTATIONS, WORKSHOPS & POSTERS

Robust Recursive SEM with IGSCA Trees	2026
International Meeting of the Psychoemetrics Society 2026 Oral Presentation	
<i>Truong MS.</i>	
Exploring the Multiverse with Decision Trees	2026
International Meeting of the Psychoemetrics Society 2026 Oral Presentation	
<i>Truong MS.</i>	
Reply to Paul E. Meehl: Machine Learning Structural Equation Modeling and Falsificatory Data Analysis	2025
York University Quantitative Methods Area Forum	
<i>Truong MS.</i>	
What Happens When Sample Size is the Confound in a Multilevel Model?	2025
International Meeting of the Psychometrics Society 2025 Oral Presentation	
<i>Truong MS., Zhang, X., & Flora, DB.</i>	
What Happens When Sample Size is the Confound in a Multilevel Model?	2025
York University Quantitative Methods Area Forum	
<i>Truong MS., Zhang, X., & Flora, DB.</i>	
Machine Learning Structural Equation Modeling and Falsificatory Data Analysis	2024
Canadian Psychological Association 2024 12-Minute Talk	
<i>Truong MS. & Choi JY.</i>	
Machine Learning Structural Equation Modeling and Falsificatory Data Analysis	2024
Modern Modeling Methods 2024 30-Minute Talk	
<i>Truong MS. & Choi JY.</i>	
Planting Decision Trees: Human-Friendly Interpretation of Monte Carlo Simulations, Multiverse Analyses and Multivariate Posterior Distributions	2024
Canadian Psychological Association 2024 Conference Poster	
<i>Truong MS., Crone G., Alter, U., & Choi JY.</i>	
Planting Decision Trees: Human-Friendly Interpretation of Monte Carlo Simulations, Multiverse Analyses and Multivariate Posterior Distributions	2024
Modern Modeling Methods 2024 Conference Poster	
<i>Truong MS., Crone G., Alter, U., & Choi JY.</i>	
Regarding the Art and Science of Psychology: Psychometric Networks	2024
York University Quantitative Methods Area Forum	
<i>Truong MS.</i>	
Applications of Psychometric Networks	2024
Statistical Consulting Service Seminar Presentation	
<i>Truong MS.</i>	
Code Quality and Computational Reproducibility	2024
Statistical Consulting Service Seminar Presentation	
<i>Truong MS.</i>	

Chapter 16 (and 17) of McElreath's Statistical Rethinking 2E

2023

Statistical Consulting Service Seminar Presentation

- Summarised seminar readings
- Led seminar discussion with questions for discussion and actively encouraged participation from attendees
- *Truong MS.*

Analyzing Data with R: How Much do my Findings Depend on my Analytical Decisions? 2023

R workshop introducing the R multiverse and targets package for advancing scientific research

- *11 Attendees*
- York University Quantitative Methods Workshop Series
- *Truong MS.*

Leveraging Machine Learning within a Structural Equation Modelling Context for the Development and Testing of Theories 2023

12-Minute Talk – CPA2023 Annual National Convention

Truong MS. & Choi JY.

Summary and Reflection - A 2-part talk on my MA study where I studied the effects of learning on inhibiting biases 2022

York University Quantitative Methods Area Forum

Truong MS.

Does Visualizing Logical Relationships Help Inhibit Biased Judgments? 2022

CVR-VISTA Conference Poster

Truong MS., Pathman T., & Stevens WD.

PSYC2260 - Cognition: Guest Lecture on Reverse Inference in Neuroimaging & Autobiographical Memory 2021

Course Instructor: *Dr. Agnieszka Kopinska*

TECHNICAL SKILLS

Programming

MATLAB, Julia, C++, Stan, Bash, LaTeX, Quarto, R
Markdown, Python, Claude Code, Advanced R

Statistics

Mixed-Effects/Multilevel Modeling, Monte Carlo Simulation Studies, Structural Equation Modeling, Categorical Data Analysis, Machine Learning, Computational Statistics, Longitudinal Data Analysis, Network Psychometrics

System Administration & Data Engineering

Wireguard VPN, Git, Singularity/Docker, Slurm, Arrow, duckdb, Linux

Stimulus Presentation

E-Prime, PsychoPy/PsychoJS

Online Studies & Surveys

Prolific, Qualtrics

COMMUNITY SERVICE

Tenure Review Committee

2024

- Reviewed and voted on tenure-track professor's tenure application as a student member.

Open Science Reviewer

2022 - Present

- [Neurocognitive aging data release with behavioral, structural and multi-echo functional MRI measures](#)
- [Peer-review for Advances in Methods and Practices in Psychological Science](#)

Sick Kids Child Life Volunteer (~200 hours)

2024 - Present

Canadian Psychological Association Quantitative Methods Section Abstract Reviewer

2023

- Reviewed and rated submitted abstracts for the CPA2024 Ottawa Convention

Food Bank Volunteer Lead (~150 hours)	2022 - Present
• Introduced and guided new community and corporate volunteers on food sorting • Organized activities based on organizational priorities and food safety concerns • Ensured safe and continued food sorting activities	

EXTRACURRICULAR ACTIVITIES

Psychology Graduate Student Association Research Symposium Chair, Psychology Graduate Student Association	2024 - 2025
--	-------------

- Organized and led graduate student members to organize a research symposium with two keynote speakers

Psychology Department Representative & Treasurer, Psychology Graduate Student Association	2023 - 2024
--	-------------

- Attended department meetings and disseminated discussions concerning graduate students to the graduate student body
- Managed graduate student association finances

Mentor, Psychology Undergraduate Mentorship Program (40 hours)	2020 - 2024
---	-------------

- Attended workshops and helped inform students on attending graduate school as a panelist
- Mentored several undergraduate students on career progression

Secretary, Psychology Graduate Student Association	2020 - 2021
---	-------------

- Created and distributed minutes at every meeting

PROFESSIONAL DEVELOPMENT

Cognitive Diagnosis Models: Theory and Applications in R	2025
---	------

Network Winter School 2024	2024
-----------------------------------	------