

Michael S. Truong

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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

AWARDS AND SCHOLARSHIPS

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

PROFESSIONAL & RESEARCH EXPERIENCE

Doctoral Student

2022 - Present

York University

Supervisor: *Dr. David B. Flora*

- Reviewed literature on the synthesis of machine learning and structural equation modelling
- Implementing this synthesis (IGSCA Trees) in the R *cSEM* package
- Conducting a Monte Carlo simulation study to investigate the frequentist properties of IGSCA Trees
- Collaborating with field experts (Drs. Ji Yeh Choi and Florian Schuberth)
- Presented and shared research findings at scientific conferences

Research Assistant

2024

York University

Supervisors: *Dr. Michael Friendly*

- Reviewed and commented on Dr. Friendly's textbook on Multivariate Linear Models for both typographical and technical content.
- Recommended elaborations, additions, and omissions.

R Library Contributor

2023 - Present

[cSEM R Package](#)

- Revising library documentation
- Updated copyleft licensing to match latest standards
- Added Docker to facilitate computational reproducibility between developers
- Implemented Integrated Generalised Structured Component Analysis Trees
- Updated test infrastructure
- Harmonizing GSCA with cSEM infrastructure
- Improved UX with tidy-style *broom* methods

Statistical Consultant

2023 - Present

York University

[Statistical Consulting Service](#)

Master's Student

2020 - 2022

York University

Supervisors: *Drs. Thanujeni Pathman & W. Dale Stevens*

- Analyzed behavioral data from a cognitive neuroscience project on neurofeedback training collected in partnership with an industry collaborator
- Proposed and led a large online behavioral study examining the relationship between decision-making and memory using PsychoJS, Qualtrics and Prolific (N=527)
- Won additional funding to compensate participants for my online study

Teaching Assistant

2020 - Present

York University

- 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*

- *Paid Research Assistant (Summer 2020)*
- *PSY406Y1: Spatial and Temporal Order in Associative Memory (Fall/Winter 2019 - 2020)*
- *PSY405H1: Temporal Order and Associative Memory (Summer 2019)*

- Surveyed extant literature on temporal-based mnemonic strategies
- Programmed counter-balanced cognitive psychology experiment with randomized stimuli in E-Prime and PsychoPy/PsychoJS
- Collected data, performed data analyses in R and programmed a Lag-CRP & SRP graph generator in R

Research Assistant

2018 - 2019

Physiological Mechanisms of Memory in Health and Disease Lab

University of Toronto

Supervisors: *Dr. Kaori Takehara-Nishiuchi & Maryna Pilkiw*

PUBLICATIONS

What if Cluster Size is the Confound in Multilevel Models

Under-Review

Truong MS., Zhang X., & Flora D.B.

Transfer of Learning to the Linda Problem Re-Examined: Explicit Versus Implicit Training Effects and Individual Differences as Predictors

Under-Review

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

PRESENTATIONS, WORKSHOPS & POSTERS

Reply to Paul E. Meehl: Machine Learning Structural Equation Modeling and Falsificatory Data Analysis

2025

York University Quantitative Methods Area Forum

Truong MS.

What Happens When Sample Size is the Confound in a Multilevel Model?

2025

International Meeting of the Psychometrics Society 2025 Oral Presentation

Truong MS., Zhang, X., & Flora, DB.

What Happens When Sample Size is the Confound in a Multilevel Model?

2025

York University Quantitative Methods Area Forum

Truong MS., Zhang, X., & Flora, DB.

Machine Learning Structural Equation Modeling and Falsificatory Data Analysis

2024

Canadian Psychological Association 2024 12-Minute Talk

Truong MS. & Choi JY.

Machine Learning Structural Equation Modeling and Falsificatory Data Analysis

2024

Modern Modeling Methods 2024 30-Minute Talk

Truong MS. & Choi JY.

**Planting Decision Trees: Human-Friendly Interpretation of Monte Carlo Simulations, 2024
Multiverse Analyses and Multivariate Posterior Distributions**

Canadian Psychological Association 2024 Conference Poster

Truong MS., Crone G., Alter, U., & Choi JY.

**Planting Decision Trees: Human-Friendly Interpretation of Monte Carlo Simulations, 2024
Multiverse Analyses and Multivariate Posterior Distributions**

Modern Modeling Methods 2024 Conference Poster

Truong MS., Crone G., Alter, U., & Choi JY.

Regarding the Art and Science of Psychology: Psychometric Networks 2024

York University Quantitative Methods Area Forum

Truong MS.

Applications of Psychometric Networks 2024

Statistical Consulting Service Seminar Presentation

Truong MS.

Code Quality and Computational Reproducibility 2024

Statistical Consulting Service Seminar Presentation

Truong MS.

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 2023
the Development and Testing of Theories**

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 2022
of learning on inhibiting biases**

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 & 2021 Autobiographical Memory

Course Instructor: *Dr. Agnieszka Kopinska*

TECHNICAL SKILLS

Programming	MATLAB, Julia, C++, Stan, Bash, L ^A T _E X, Quarto, R Markdown, Python, 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
<ul style="list-style-type: none">Reviewed and voted on tenure-track professor's tenure application as a student member.	
Open Science Reviewer	2022 - Present
<ul style="list-style-type: none">Scrutinized open datasets and communicated problems to authorsNeurocognitive aging data release with behavioral, structural and multi-echo functional MRI measuresMental Health and Social Contact During the COVID-19 Pandemic: An Ecological Momentary Assessment Study	
Sick Kids Child Life Volunteer (~ 200 hours)	2024 - Present
Canadian Psychological Association Quantitative Methods Section Abstract Reviewer 2023	
<ul style="list-style-type: none">Reviewed and rated submitted abstracts for the CPA2024 Ottawa Convention	
Food Bank Volunteer Lead (~ 150 hours)	2022 - Present
<ul style="list-style-type: none">Introduced and guided new community and corporate volunteers on food sortingOrganized activities based on organizational priorities and food safety concernsEnsured safe and continued food sorting activities	

EXTRACURRICULAR ACTIVITIES

Psychology Graduate Student Association Research Symposium Chair, Psychology Graduate Student Association	2024 - 2025
<ul style="list-style-type: none">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
<ul style="list-style-type: none">Attended department meetings and disseminated discussions concerning graduate students to the graduate student bodyManaged graduate student association finances	

Mentor, Psychology Undergraduate Mentorship Program (40 hours)

2020 - Present

- 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