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 Under-Review
Implicit Training Effects and Individual Differences as Predictors

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

PRESENTATIONS, WORKSHOPS & POSTERS

Reply to Paul E. Meehl: Machine Learning Structural Equation Modeling and Fal- 2025
sificatory Data Analysis

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, Multiverse Analyses and Multivariate Posterior Distributions — 2024

Canadian Psychological Association 2024 Conference Poster

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

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

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 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 & 2021
Autobiographical Memory
Course Instructor: Dr. Agnieszka Kopinska

TECHNICAL SKILLS

Programming	MATLAB, Julia, C++, Stan, Bash, LaTeX, 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

- 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 - 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