Javier Mencia Ledo

j.mencialedo@mail.utoronto.ca | +1 (416) 824-3241

Toronto, Canada

EDUCATION

University of Toronto　　　　　　　　　　　　　　　　　　　　　　　Toronto, Canada

H.B.Sc. Statistical Sciences Specialist (Theory and Methods) and Mathematics Major　　　2021-2025

Relevant Coursework: Analysis, Applied Statistics Methods, Bayesian Statistics, Linear Algebra, Mathematical Statistics, Probability, Regression, Spatial Data Analysis, Statistical Methods for Machine Learning

GPA: 3.5/4.0

RESEARCH EXPERIENCE

Women's College Hospital　　　　　　　　　　　　　　　　　　　　　Toronto, Canada

Research Analyst　　　　　　　　　　　　　　　　　　　　　　　June 2025 − Present

- Working on the analysis of breast cancer, lobular, chemotherapy, triple-negative, HER2-positive, treatment.
- Benefit of chemotherapy for triple-negative and HER2-positive invasive lobular versus ductal carcinoma.

ReSTORE Lab, Faculty of Medicine, University of Toronto　　　　　　　　　Toronto, Canada

Statistical Consultant　　　　　　　　　　　　　　　　　　　September 2024 − Present

- Working on the analysis of various projects using data from health partners and hospitals.
- Conducting and reviewing the analysis of other studies on rehabilitation and occupational science research.
- Assisting in manuscript preparation, in particular with the methods and results sections and the creation of tables and figures.
- Presenting conclusions to health partners and research associates.

Stigma and Motivation Lab, University of Toronto　　　　　　　　　　　Toronto, Canada

Research Assistant　　　　　　　　　　　　　　　　　　　　April 2024 − April 2025

- Working on studies exploring the mental health of sexual minorities.
  - Used the minority stress framework to explore coming out among LGB individuals
  - Implementing generalized linear models, mainly logistic regression and cumulative link models.
  - Used moderation and mediation models with a multiverse analysis in the exploratory analysis.
  - Performing scale validations using Confirmatory Factor Analysis (CFA) to test if distress scales is also adequate for sexual minorities.
- Helped create posters that were presented at various poster fairs/conferences.

COBWEB Lab, University of Toronto　　　　　　　　　　　　　　　　Toronto, Canada

Research Assistant　　　　　　　　　　　　　　　　　　September 2023 − April 2024

- Used COBWEB, an agent-based modelling software, to investigate the effect of falling natality rates in Western countries.
- Used time series methods, applied Mann-Whitney U tests and calculated Pearson correlation coefficients to evaluate the efficacy of potential solutions against a baseline situation.

PROFESSIONAL EXPERIENCE

KPMG　　　　　　　　　　　　　　　　　　　　　　　　　　　Madrid, Spain

Intern, Financial Consulting　　　　　　　　　　　　　　　　　　May − August 2024

- Handled handling post-acquisition integration of applications and systems from the local zone of the local company to the client's global zone.
- Gathered necessary documentation for testing (unitary, performance and volume).
- Created sample testing data for the different message queues (MQs) and performed corresponding simulations using APIs.
- Collaborated on write-up of Proof of Concept and reports.
- Contributed to discussions of target architecture of the merged system and structure of the message queues (MQs).

AXPE Consulting　　　　　　　　　　　　　　　　　　　　　　　Madrid, Spain

Intern, Quant AI Lab　　　　　　　　　　　　　　　　　　　　June − August 2022

- Performed data mining with Python and data preparation/cleaning with SQL.
- Implemented data integrity checks and data analysis.
- Used pandas and SciPy to produce time series data forecasts of client data.

RESEARCH PROJECTS

NLP Project: Detection of spam YouTube comments   September − December 2024
STA314: Statistical Methods for Machine Learning I
- Developed a machine learning classifier to automatically detect and flag spam comments on YouTube using a dataset of 1,369 labeled comments.
- Used semantic analysis and BERT, an ensemble model using majority voting classifying.
- Implemented XGBoost, Random Forests and Support Vector Machines (SVM) to achieve an accuracy of over 95%.

Spatiotemporal Data Project: Modeling Suicide Incidence in California   September − December 2024
STA465: Spatial Data Analysis
- Analyzed suicide rates across California's counties using standardized incidence ratios (SIRs) and Bayesian hierarchical spatiotemporal models, using proximity to alcohol outlets, access to parks, and the number of mental health clinics.
- Spatial autocorrelation was assessed with Moran's I, and INLA was used to estimate relative risks..
- Performed spatial joins to merge datasets.

Applied Relative Belief Project *STA497: Readings in Statistics*   May − August 2024
Co-supervised by Professors Michael Evans and Scott Schwartz.
- Automating experimental bias evaluations using probabilistic programming frameworks, like PyMC.
- Used one and two parameter toy models and also regression models.
- Used marginal likelihood in the models to allow for non-conjugate priors.
- Vectorized operations and implemented Cholesky decompositions to address scalability issues.

SELECTED PUBLICATIONS

Javier Mencia Ledo, Barbara Gorczyca Abel, Sebastian Straube, Amin Yazdani, Basem Gohar, Charlene Choi, Raihana Premji, Ali Bani-Fatemi1, Aaron Howe1, Behdin Nowrouzi-Kia (2025) Impact of Occupational Category and Job Qualifications on Return-to-Work Readiness and Changes in Working Conditions: A Retrospective Study **Scientific Reports** *Under Review (Also submitted to CARWH 2025 Conference)*

Ali Bani-Fatemi, Aaron S. Howe, Advika Gudi, Yazan Adnan Saleh, **Javier Mencia Ledo**, Abigaile Beamish, Beatrice Sharkey, Behdin Nowrouzi-Kia (2025) Genetic Insights into Burnout: A Pilot GWAS in Electrical Workers **Occupational Medicine** *Under Review*

Raihana Premji, **Javier Mencia Ledo**, Charlene Choi, Behdin Nowrouzi-Kia (2025) Examining Workplace Mental Health and Related Factors Associated with Intent to Leave Among Canadian Teachers using the General Social Survey **Teaching and Teacher Education**

PRESENTATIONS

Society for Personality and Social Psychology Self and Identity Preconference, Denver CO, February 2025. Colin K. Li, **Javier Mencia Ledo**, Rebecca Neel. "To conceal or disclose? The differential role of minority stress in LGB identity concealment and disclosure." *(Poster)*

Undergraduate Research Presentations Department of Statistical Sciences, Toronto ON, August 2024. **Javier Mencia Ledo**, Feifan Liu, Scott Schwartz. "Demonstrating the feasibility of automating experimental bias evaluations within probabilistic programming frameworks"

Faculty of A&S Research Opportunities Program (ROP) Poster Fair, Toronto ON, March 2023. **Javier Mencia Ledo**, Wai Yu Amanda Ng, Nathaniel Zongaro, Brad Bass. "Exploring Population Dynamics: An Agent-Based Modelling Approach" *(Poster)*

AWARDS

SURP Scholar, University of Toronto Institute of Medical Sciences   2025
Awarded for summer research project "Benefit of chemotherapy for triple-negative and HER2-positive invasive lobular versus ductal carcinoma" supervised by Professor David Lim at Women's College Hospital ($6,974)

SUDS Scholar, University of Toronto Data Science Institute   2025
Awarded for summer research project "Wired for Wellness: A Focus on Promoting Apprentices, Contractors, and Employers' Mental and Physical Health and Well-Being" supervised by Professor Nowrouzi-Kia ($7,200)