Javier Mencia Ledo

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Toronto, Canada

EDUCATION

University of Toronto Toronto, Canada
M.Sc. in Biostatistics 2025-Present

University of Toronto Toronto, Canada
H.B.Sc. Statistical Sciences Specialist (Theory and Methods) and Mathematics Major with High Distinction 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
Institute of Medical Science Summer Research Scholar June 2025 − Present
- Led SEER database analysis revealing chemotherapy's limited efficacy for triple-negative lobular carcinoma, prompting reconsideration of treatment guidelines.
- Developed propensity-matched cohorts using Cox regression and Kaplan Meier curves to isolate histological differences in treatment response.

ReSTORE Lab, Faculty of Medicine, University of Toronto Toronto, Canada
Summer Undergraduate Data Science Opportunities Program Scholar May 2025 − August 2025
- Developed hybrid RF-LSTM model predicting workforce dropout in SLE patients with 94% sensitivity and 28.6-month median lead time, enabling early clinical intervention through longitudinal analysis.
- Selected for oral presentation at SUDS Showcase and submitted to the WDPI 2026 conference.

Research Analyst and Statistical Consultant September 2024 − Present
- Working on the analysis of numerous projects using data from health partners and hospitals in Canada with R and Python
- Integrating machine learning techniques, including NLP, RNN, to studies on rehabilitation.
- Designed analyses and led projects and manuscripts with various teams.
- Offered full-time summer role after being a part-time RA for a year and offered an additional return offer after the summer.

Stigma and Motivation Lab, University of Toronto Toronto, Canada
Research Assistant April 2024 − April 2025
- Worked on studies exploring the mental health of sexual minorities.
- Performing scale validations using Confirmatory Factor Analysis (CFA) and conducted moderation/mediaiton analyses.
- 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).

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%.

Applied Relative Belief Project *STA497: Readings in Statistics*   May − August 2024
Co-supervised by Professors Michael Evans and Scott Schwartz.
- Automated 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

Siddiqui, S., **Javier Mencia Ledo***, Premji, R., Lau, H. K. C., Balakrishnar, K., Choi, C., Bani-Fatemi, A., Nowrouzi-Kia, B. (2025). Comparing barriers to EAP utilization in Canada and the U.S.: A mixed-methods study using NLP and machine learning. **Health Services Research** *Under Review.*

Shahzad, M., **Javier Mencia Ledo**, Azarmi, M., Bani-Fatemi, A., & Nowrouzi-Kia, B. (2025). *Safeguarding the skilled trades: Burnout, job satisfaction, and the risk of turnover in Ontario electricians.* **Occupational Medicine** *Under Review*

Javier Mencia Ledo, Choi, C., Sathananthan, A., Premji, R., Thomson, H., Carnide, N., Sunil, T. S., Chattu, V. K., & Nowrouzi-Kia, B. (2024). *Extreme heat and health outcomes in construction workers: A systematic review and meta-analysis.* **Nature Climate Change**. *Under Review*

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 **npj Mental Health Research** *Under Review*

PRESENTATIONS

Data Sciences Institute SUDS Showcase, Toronto ON, August 2025. **Javier Mencia Ledo**, Dennisse Bonilla, Zahi Touma, Behdin Nowrouzi-Kia. "Early Prediction of Labour Force Dropout in SLE Patients: Integrating Longitudinal Deep Learning through an LSTM RNN with Random Forests"

Institute of Medical Sciences SURP Research Day, Toronto ON, August 2025. **Javier Mencia Ledo**, David Lim. "Differential Chemotherapy Benefit in Triple-Negative Breast Cancer: Invasive Lobular vs. Ductal Carcinoma" *(Poster)*

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 ($6,974 CAD)	2025
SUDS Scholar, University of Toronto Data Science Institute ($7,200 CAD)	2025
UDSC Scholar, University of Toronto School of Cities ($9,500 CAD - Declined)	2025
Faculty of Arts and Science Dean's List Scholar	2021, 2025

VOLUNTEER EXPERIENCE

Co-Chief of Data Management at Food Security Analytica   September 2024 − Present
- Researching UofT Scarborough food security via survey design, regression analysis, and stakeholder reporting

President of the University of Toronto Run Club   September 2024 − Present
- Coordinating 14 run leaders to organize events for over 500 runners each semester, and creating partnerships.