Tariq Cisse

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Education

University of Washington — Seattle, WA
Candidate, Master of Science in Biostatistics — *September 2025 – March 2027*

University of Toronto — Toronto, ON
Honours Bachelor of Science in Statistics, with High Distinction — *September 2021 – April 2025*

- Dean's List: 2022, 2023, 2024, 2025
- Coursework in Advanced Machine Learning and Deep Learning, Statistical Inference, Probability, Stochastic Processes, Multivariate, Time-Series, Regression and Survival Analysis, etc...

Work Experience

Sound Pharmaceuticals, Inc. — Seattle, WA
Clinical Research & Data Coordinator (Intern) | MATLAB, ClinCapture EDC, MS Office — *October 2025 – Present*

- Working in Sound Pharmaceuticals, Inc.'s (SPI) Data Management team to support research & development of drugs for prevention and treatment of sensorineural hearing loss and tinnitus.
- Performing validation, reconciliation, and statistical analyses of data from Phase II, III clinical trials and open-label studies.
- User Acceptance Testing (UAT) of electronic data capture (EDC) systems for data collection in compliance with protocols and guidelines.

Dalla Lana School of Public Health, University of Toronto — Toronto, ON
Research Assistant, Spatial Data Analysis | R, Python, PowerQuery, MS Office, GIS — *September 2024 – April 2025*

- Assisted the Geoinformatics of Spatial and Environmental Health Laboratory (Ge-iSEE) with (spatial) data analysis and of population health indicators in Ontario and in the UK.
- Developed engines to increase efficiency of data cleaning, processing, reconciliation and mapping of spatial data on air pollution, vegetation health and other environmental factors at 300,000+ sites spanning 20+ years.
- Performed literature screenings and reviews for meta-analysis and systematic review, and to assess study designs and statistical modeling methods.

Financial Services Regulatory Authority of Ontario (FSRA) — Toronto, ON
Risk Analyst (Co-op) | Python, SQL Server, Power BI, PowerQuery, DAX, MS Office — *January – August 2023*

- Raised efficiency standard in production of reports on 1,000+ Canadian employers and improved consistency of risk insights by leading data visualization processes, database management, validation and reconciliation tasks.
- Regularly provided critical insights and, performed and documented stochastic projections of fund's financial position with internal model for the production of sector reviews, risk appetite statements and inaugural report.
- Supported statistical analysis project to inform strategies with new investment manager by processing and analyzing data on various capital market variables.

Publications

Under Review

- Kim, H., Lai, K., **Cisse, T.**, Wei, X., Ge, E. (2025). Association between air pollution and chronic cough: Evidence from a systematic review and meta-analysis of observational studies. *Environmental Research.*
- Grubic, N., Ge, E., Zang, Z.,Campitelli, M. A., Golding, H., **Cisse, T.**, Koh, M., Lavigne, E., Batomen, B., Liu, J., Wei, X. (2025) Association Between Air Temperature and COVID-19 Emergency Department Visits in Ontario, Canada: A Population-Based Case-Crossover Study. *The Lancet Planetary Health.*

Research & Projects

German Breast Cancer Study Group - Survival Analysis — *April 2025*

- Investigated effect of hormonal therapy, in R, on recurrence-free survival of 686 cancer patients, and found treatment to be effective based on non-parametric, semi-parametric and parametric models.
- Analyzed patients' survival data by producing Kaplan-Meier curves, Stratified Cox Proportional Hazards (PH) model and Weibull parametric model with Gamma frailty, adjusting for age, tumor size and grade, hormones, etc..
- Built and validated models using stepwise procedures, scaled Schoenfeld, Martingale and deviance residuals, log-log plots and Likelihood Ratio Tests.

Child Mind Institute - Severity Impairment Index - Ensemble Classification *March – April 2025*

- Machine Learning project, in Python, facilitated by the Child Mind Institute for better understanding and prediction of problematic internet use among 3,960 children and teens, and assessing of their mental health.
- Trained XGBoost, Random Forrest and Support Vector Machine (SVM) classifiers with 40 features (demographic, physical activity, mental health indicators, etc...), and using Quadratic Weighted Kappa (QWK) as metric.
- Combined all three models into a Logistic Regression classifier for robustness and achieved very competitive results in comparison to top submissions in corresponding Kaggle competition (Top 8%).

Analysis of Hero Rats' Sensory Preferences - Longitudinal Bayesian Modeling *May – August 2024*

- Supervised research project, in R, modeling 32 HeroRATS' behavioral preferences for TNT and Chamomile odors based on early-age exposure to these scents and training for detection of landmines and TB.
- Performed Exploratory Data Analysis (EDA) including Reliability measures and Principal Component Analysis, analyzed with Bayesian Linear Mixed-Effect Model and concluded with 500-sample Posterior Predictive Checks.
- Found only rats' formal training to be of statistical significance to their scent detection ability. The project was later presented at the University of Toronto Scarborough 2024 Undergraduate Research Symposium.

Technical Skills and Other

Languages: R, Python, SQL, MATLAB, DAX, C
Tools and Libraries: pandas, NumPy, Matplotlib, seaborn, scikit-learn, TensorFlow, SciPy, PyMC, tidyverse, dplyr, Stan, ggplot, jupyter, R Markdown, MS Office, PowerBI, SQL Server, PowerQuery, LaTeX, GIS
Other: Bilingual (fluent in English and French)