# Tariq Cisse

Seattle, WA | 437-984-4539 | cissetariq@gmail.com

## 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 Data Mining, Statistical Inference, Probability, Stochastic Processes, Multivariate, Time-Series, Regression and Survival Analysis, etc...

## Work Experience

**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 to assess and evaluate various 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.

## 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 facilitated by the Child Mind Institute for better understanding and prediction of problematic internet use among children and teens, and assessing of their mental health and anxiety.
- Trained XGBoost, Random Forrest and Support Vector Machine (SVM) classifiers with data from demographic, physical activity and mental health indicators, 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*

- Statistical modeling project under Professor's supervision analyzing 32 Hero Rats' odor preferences for TNT and Chamomile based on early-age exposure to these scents and training for detection of landmines and tuberculosis.
- Performed an Exploratory Data Analysis (EDA) including Reliability measures and Principal Component Analysis, fit Bayesian Linear Mixed-Effect Model and concluded analyses with Posterior Predictive Checks with 500 samples.
- Found rats' formal training to be of 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, SciPy, scikit-learn, Matplotlib, seaborn, TensorFlow, PyMC, tidyverse, dplyr, ggplot, jupyter, R Markdown, MS Office, PowerBI, SQL Server, PowerQuery, LaTeX, GIS
**Other**: Bilingual (fluent in English and French)