

Bilin Nong

☎ 807-706-7095

🌐 Personal Website
✉ bilin.nong@mail.utoronto.ca
🐙 GitHub

EDUCATION

University of Toronto (St. George Campus)

Honours Bachelor of Science - Statistical Science & Mathematics

2021 – 2026

ASIP Co-op Program

GPA: 3.95/4.00; Average: A+

Courses: Software Design, Multivariable Calculus, Linear Algebra, Probability & Statistics, Python Programming, Databases, Survival Analysis, Regression Analysis, Machine Learning, Deep Learning

SKILLS

Technical Skills: SQL, Python, R, Java, Unix Shell, Git, HTML, MS Access, L^AT_EX, Markdown

Libraries: tidyverse, NumPy, Pandas, Matplotlib, Scikit-learn, PyTorch

EXPERIENCE

Royal Bank of Canada

Data Scientist Intern

Toronto, ON

2024-09 – Present

- Curated business reports for clients using **Python** and **SQL** on IBM Cloud Pak. Developed an interactive dashboard that facilitated the delivery of an MVP for the trade finance team.
- Automated financial emissions calculations for six asset classes, leveraging **Python** to streamline workflows in the Development team; conducted data quality checks to identify and address critical data gaps.
- Developed high-quality and scalable project codes based on **OOP paradigm**.

Data Science Institute @University of Toronto (Link)

Research Analyst with Prof. Aya Mitani

Toronto, ON

2024-05 – 2024-09

- Conducted a **systematic literature review** to evaluate the influence of global diseases on data science methodologies.
- Built **R scripts** to compile datasets, integrating disease burden rankings with data science publication metrics.
- Performed **non-parametric statistical analysis** to analyze disease research trends from 2010 to 2024.
- Applied **hierarchical clustering technique** to build dendrograms and heatmaps for visualizing similarity among journals based on their main research focus.
- Exhibited **scientific communication skills** through delivering a poster presentation on SUDS research day.

Lunenfeld-Tanenbaum Research Institute @Sinai Health (Link)

Research Intern with Prof. Frederick Roth and Dr. Jochen Weile

Toronto, ON

2023-04 – 2024-04

- Co-developed bioinformatic pipelines (TileSeqMave) to quantify the variant effect of genetic mutations and compiled benchmark sets of variants from curated extensive literature reviews.
- Leveraged programming skills in **Python** and **R** to evaluate and enhance the predictive accuracy of variant effect maps across different pipeline versions, achieving a 30% improvement over previous pipelines.
- Formulated recommendations for optimizing the implementation of TileseqMave pipelines based on analysis results, which are estimated to reduce computational time by up to 40%.
- Demonstrated **presentation skills** by delivering a presentation on the methodologies and key findings of this project to the entire lab and authored a comprehensive report.

PROJECTS

Community Safety Application – safeTO

2024-05 – 2024-08

- Collaboratively developed a community safety website (safeTO) that visualizes crime analytics in Toronto neighbourhoods through an interactive city map.
- Designed **Java** classes for the data access and persistence layer using Clean Architecture, including functionality to fetch data via HTTP requests, export data in JSON format, and store user emails in a key-value database.
- Implemented an Email Alert class to send yearly crime reports to users, utilizing the **Builder design pattern** to construct and format email content.
- Applied **Clean Architecture** and **SOLID design principles**, integrating various **design patterns** throughout the project to enhance the web app's maintainability.

Learning Management System Design

2023-09 – 2023-10

- Leveraged **Entity-Relationship** Principle to design a schema for a learning management system database, specifically tailored to support the functionalities of a web app for managing student assignments.
- Developed and executed complex **SQL** queries to facilitate data retrieval and analysis, demonstrating a deep understanding of relational database and SQL intricacies.
- Embedded SQL queries into **Python** using **psycopg2** library, showcasing the ability to integrate SQL with a high-level programming language for efficient data manipulation.
- Conducted testing and validation of database functionalities, ensuring accuracy and reliability of the data, and thereby facilitating insightful analytics for educational management and improvement.