Lucas Lyons

lucaselyons@outlook.com ❖ linkedin.com/in/lucaslyons1/ ❖ https://github.com/lucaslyons

Education

Honours BSc, Mathematics and Statistics   **June 2024**

University of Toronto, St. George (Toronto, ON)

- Coursework: calculus, real analysis, linear algebra, ODEs, linear + nonlinear optimization, probability, regression analysis, data analysis, statistical/machine learning, stochastic processes, high-dimensional statistics, complex analysis, group theory, logic

Research and Technical Experience

Languages: Python, SQL, R, Javascript/Typescript
Tools: Git, PostgreSQL (Supabase), Excel, Jira
Libraries: pandas, sk-learn, numpy, matplotlib, optuna, scrapy, pgvector

Brewtiful (Full-stack end-to-end RecSys)   **Aug 2025 - Nov 2025**

- Built and deployed a beer recommendation app, with a hybrid k-means + LightFM model capable of serving 500+ personalized recommendations in < 1000ms.
- Trained a LightFM model, achieving ~316% p@10 improvement (0.114) over popularity baseline (0.036) on sparse interaction data. Implemented custom k-means + LightFM embedding recommendation serving.
- Developed a next.js frontend and integrated it with a Supabase PostgreSQL backend with pgvector for serving low latency recommendations. Deployed the app to production with Vercel.
- Collected ~2.5 million publicly available data points for model training using scrapy spiders.

Research Assistant, Statistics | (University of Toronto)   **Jun 2024 - Oct 2024**

Supervised by Professor Piotr Zwiernik, conducted a thorough literature review on the topics of E-values, anytime-valid inference, and sequential testing. Analyzed papers by leading researchers on these subjects including A. Ramdas and P. Grunwald. Reinforced knowledge on topics such as hypothesis testing and exponential family distributions. Discussed the results and their potential applications with Prof. Zwiernik.

Work Experience

Technology Consulting Staff | EY Canada (Toronto, ON)   **Oct 2024 - Present**

- Independently managed several streams of the complete IT infrastructure migration of 43 bank branches acquired by client. Coordinated vendors, managed deadlines, and identified risks to ensure all project goals were successfully met, reporting to the client's senior leadership.
- Created and managed Excel data pipelines to optimize metric reporting and enable decision-making processes.

Technology Consulting Intern | EY Canada (Toronto, ON)   **May 2023 - Aug 2023**