Kyle M. **Booker**

Vancouver, B.C., Canada

(+1) 778-586-5352 | bookerkyle@gmail.com | kyle-booker.com | KyleBooker | kylebooker

Education

University of Waterloo — *Waterloo, Ont.*
Masters in Applied Mathematics — *Sep. 2018 — Apr. 2021*

Thompson Rivers University — *Kamloops, B.C.*
B.S. in Computer Science and Mathematics — *Sep. 2014 — Apr. 2018*

Experience

Contract — AI Training for Mathematics — *Vancouver, B.C.*
Outlier AI — *Jan. 2024 — Present*

- Curated and annotated more than 5 000 advanced-math prompts and solutions, improving model answer accuracy.
- Evaluated AI-generated explanations on topics such as mathematics, programming, physics, and economics.

Data Scientist — *Vancouver, B.C.*
Intellifi — Residential Technology — *Jun. 2022 — Mar. 2023*

- Deployed an Azure Computer-Vision OCR pipeline that ingested more than 1 000 monthly rent-roll PDFs, reducing manual data entry time for analysts by 70%.
- Built various supervised learning models that helped the company forecast and project returns from all loans they invested in based on past behavior of customers and trending data.
- Designed interactive Power BI dashboards tracking KPIs.

Data Analyst — *Vancouver, B.C.*
CMLS Financial — Residential Capital Markets — *Jun. 2021 — Jun. 2022*

- Delivered a churn model with 80% recall that enabled targeted campaigns, boosting customer retention.
- Engineered a Selenium scraper ingesting 30 000 real-estate listings per week, expanding market-intelligence coverage.
- Ran A/B tests on retention incentives that raised engagement by 15%.
- Automated a pipeline using Python, SQL, Excel that processes 1 gigabyte of customer data in under 1 hour.

Graduate Research Assistant — *Waterloo, Ont.*
University of Waterloo — *Sep. 2018 — Apr. 2021*

- Authored and optimized 2 000 lines of Python/C++ computational fluid dynamic code.
- Led and attended weekly scrum-style meetings with 7 graduate researchers to access a wider range of research outcomes.
- Periodically held lectures for both applied math and chemical engineering departments.
- Wrote a NSERC grant that secured $27 000 in research funding.

Undergraduate Research Assistant — *Kamloops, B.C.*
Thompson Rivers University — *May 2016 — Aug. 2018*

- Co-authored a paper in Applied Mathematics Letters and delivered a talk to 50 attendees at the Canadian Undergraduate Math Conference.
- Refactored 500 lines of legacy C code, and parallelized batch simulations with Bash and Python, reducing run-time and doubling data throughput.
- Wrote programming code in Python and C for applied math topics in graph theory, matroid theory and numerical analysis.

Skills

Programming SQL, Python, C, C#, C++, Java, R, SQL, HTML, JavaScript, PHP, MATLAB
Other Machine Learning, Azure, AWS, Excel, Power BI, Git, Docker, pandas, LaTeX, Linux

Publications

Edge-coloured graph homomorphisms, alternating paths and duality — *Journal: JCMCC*
Co-author: Dr. Richard Brewster — *Aug. 2022*

On accuracy of numerical solution to boundary value problems on infinite domains with slow decay — *Journal: Mathematical Modelling of Natural Phenomena*
Co-author: Dr. Yana Nec — *Apr. 2019*

Extracurricular

Self-Hosted Unraid Server — *Vancouver, B.C.*
Home-Lab Infrastructure — *May 2021—Present*

- Built and maintain a Linux-based home server running over 100 Docker containers delivering 99% uptime to over 20 users.

Volunteer — *Kamloops, B.C.*
Programming and Music — *Sept. 2010 — Aug. 2018*

- Volunteered once a week at the University's computer labs, mentoring 30 students understand first-year programming material.
- Provided piano accompaniment for my high school choir and local churches and composed original score music for a local musical.