

Kazi Ashhab Rahman

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EDUCATION

McGill University

- B.S., Computer Science: Artificial Intelligence (Minor Statistics)

Montreal, QC (Fall 2022- now)

WORK EXPERIENCE

Royal Bank of Canada (RBC)

Montreal, Canada (January 2026 – April 2026)

Software Developer, Digital Technology

- Will design and deploy full-stack solutions for RBC's Online Banking platform using Java, Spring Boot, Angular, and JavaScript within OpenShift and Azure environments.
- Will develop and optimize **RESTful APIs** and **MongoDB** integrations to enhance system scalability, extensibility and performance.

City Bank

Dhaka, Bangladesh (May 2024 – August 2024)

Summer Data Science Intern

- Developed and deployed a predictive machine learning model using **PyTorch** to identify high-value customers likely to increase long-term deposits, improving targeting efficiency by **15%**.
- Used **Pandas**, **SpaCy** and **NLTK** to analyze structured and unstructured data, visualizing trends with **Seaborn** to uncover behavioral patterns for improved customer targeting.

PERSONAL PROJECTS

Track Split: AI-Powered Expense Tracker – TypeScript, Python

- Currently developing an expense platform with dynamic visualizations and **ML-driven** spending insights.
- Integrating **OCR**-based bill scanning and intelligent group-splitting to streamline expense management.
- Built with a **Next.js** frontend, serverless API routes, and **PostgreSQL** via **Prisma**, deployed on **Vercel**.

Pokémon Game Environment – Python (Tkinter)

- Engineered a fully modular, object-oriented game in **Python** featuring multiple Pokémons types, **45+** attack moves and **30+** item types, enhancing gameplay complexity and scalability.
- Built interactive systems for evolution, stat tracking and AI logic by applying advanced design patterns (**Decorator**, **Observer**, **State**, **Visitor**); enabling **65%** faster expansion and feature upgrades.
- Designed multiple battle agents leveraging core Pokémons mechanics, achieving a **95%** win rate in simulations.

Travel Reservation System – Java

- Designed and implemented a **distributed reservation system** with **4 resource managers** and a coordinating middleware, enabling **synchronized multi-client booking** across flights, cars, and rooms.
- Built **RMI** and **TCP** socket versions with a **custom JSON-based message protocol**, automatic reconnection, and a **thread-per-connection concurrency model** supporting **10+ clients** with **<1s** response latency.
- Implemented atomic bundle reservations with rollback and two-phase commit logic to ensure consistency and fault tolerance across distributed nodes.

PUBLICATIONS

Context Helps, But Only at Scale: Evaluating Practical LLMs for Time Series Forecasting

- Benchmarked LLM architectures (**Llama 3.2**, **GPT-4o-mini**, **Mixtral**) against classical methods (**ARIMA**, **ETS**) across 120 forecasting tasks spanning 12 domains including finance, energy, and transportation.
- Developed **XGBoost routing classifier** achieving **89.5%** of optimal performance while reducing LLM usage by **69%**, enabling practical deployment for resource-constrained environments.

LEADERSHIP EXPERIENCE

Course Assistant – MATH 223

(August 2025- now)

- Support Linear Algebra II students in CS and Stats through tailored lessons, grading, and guided problem-solving to strengthen understanding.

TECHNICAL SKILLS

- **Languages:** Java, C, C++, C#, Python, SQL, R, MATLAB, JavaScript, OCaml, HTML, CSS
- **Tools:** Bash, Git, Jira, AWS, Azure, Docker, spaCy, NLTK
- **Frameworks/Libraries:** Spring Boot, Seaborn, Pandas, Scikit-learn, ReactJS, NodeJS, Flask, PyTorch, OpenCV