

# Umama Rahman

LinkedIn: [linkedin.com/in/umama-rahman/](https://www.linkedin.com/in/umama-rahman/)

Github: [github.com/umama-rahman1](https://github.com/umama-rahman1)

Website: [umamarahman.me](https://umamarahman.me)

Email: [umamar@mun.ca](mailto:umamar@mun.ca)

Phone: +1-709-219-0436

## EXPERIENCE

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- Canadian Pension Plan Investment Board** Toronto, ON  
*Data Engineer Intern - Data Platforms* Jan 2024 - April 2024
  - Streamlined high-performance big data ingestion by interfacing with Bloomberg **SFTP** servers (**AWS Lambda, S3**) and triggering **Airflow** jobs for transformations and loading (**AWS EMR, PySpark, Parquet**) into the data warehouse.
  - Developed a scalable **microservice** architecture to collect and process macro data on specific tickers, enabling real-time progress monitoring, SLA breach notifications, and timely data for business investment decisions (**CloudWatch, Athena**).
  - Improved data awareness, quality and monitoring by implementing configurable data checks to onboard new datasets, enabling users to receive automated reports on data readiness and quality issues (**EventBridge, CronJob, SNS, DynamoDB**).
  - Led the **Quality Engineering** Initiative, increasing unit test coverage to over **50%**, implementing automatic code scanning and alerts for best practices, cutting unit test times by **half** (**PyTest, Unit test, SonarQube, GitHub Actions**).
- Canadian Pension Plan Investment Board** Toronto, ON  
*Software Engineer Intern - Capital Markets and Factor Investing Team* May 2023 - August 2023
  - Engineered an automated server-less system (**Lambda, API Gateway, Aurora, Terraform**) for real-time order checks in a heavily regulated environment. Reduced post-trade review time by **3 days** through streamlined compliance checks.
  - Enhanced Excel plugin (**Python, PyXll, Redis**) to deliver hedge fund datasets/risk metrics and complex functions directly into Excel. Pulled data from (**MongoDB, NoSQL, MySQL, Athena**) databases for precise analysis/decision-making.
  - Designed and built backend (**Java, Spring Boot, RDS, Gradle**) for internal trade order and portfolio analysis tool.
  - Created **CI/CD** pipelines (**IBM UrbanCode Deploy, Jenkins, Artifactory**) for DEV and UAT environments of new applications onto Linux machines, and enhanced overall workflow - streamlining job management (**JAMS Scheduler**).
- Canadian Pension Plan Investment Board** Toronto, ON  
*Software Engineer Intern - Public Market Technologies, Active Equities Team* September 2022 - December 2022
  - Developed/maintained back-end API (**Python, Flask, RESTful API**) and leveraged databases (**MS SQL, PostgreSQL, SQLAlchemy**) for portfolio performance applications. Used **Postman** and **JSON** to interact with endpoints.
  - Deployed web applications (**Kubernetes, EKS, ArgoCD**) and set up upgraded **ETL** tasks for performance attribution calculation and correction, reducing erroneous reports by **57%**, with AWS (**EC2, Lambda, S3, ELB, Route 53**).
  - Collaborated with business teams to understand their needs and develop applications to support portfolio management of the company's public investments by effectively communicating and coordinating with stakeholders (**Confluence**).
- Achievers LLC** Toronto, ON  
*Software Developer Intern - Reporting Team* January 2022 - April 2022
  - Debugged and resolved **13+** technical issues in front-end (**ReactJS, AngularJS, NodeJS**) and back-end (**PHP, MySQL, PostgreSQL**) of Achievers platform. Ensured optimal user experience through **QA testing**.
  - Developed and maintained web applications (**JavaScript, HTML5, CSS, Docker**), enhancing code quality through **unit/integration testing**, and implementing **microservices** architecture for improved modularity and scalability.
  - Actively engaged in **agile** software development, sprint planning, story point estimations, and daily scrum meetings.
  - Collaborated with cross-functional teams to deliver high-quality results with documentation (**Jira, Git, Confluence**).

## EDUCATION

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- Memorial University of Newfoundland** St. John's, NL, Canada  
*Bachelor of Engineering - Computer Engineering (Co-op Program)* September 2020 - April 2025  
*GPA: 3.9/4.0 — Dean's List 2020-2023*
- Certification**  
*Amazon Web Services (AWS) Certified Solutions Architect - Associate (SAA)* September 2023 - September 2026

## PROJECTS

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- E-Commerce Inventory Management (C++)**
  - Handled inventory tracking, stock management, and order processing. Implemented real-time inventory updates, automated stock replenishment, and order fulfillment tracking (**Data structures, Linux/Unix, Bash**).
- Ferry Reservation System (Web App)**
  - Built a front-end (**Next.js, ChakraUI**) and back-end (**Python, FastAPI, SQLite**) to enable users to search, select easily, and reserve seats for Gov of NL ferry service and track live ferry schedule.
- Image Classification with CIFAR-10 (Computer Vision)**
  - Trained a Deep **Machine Learning** Model, a robust Convolutional Neural Network (**CNN**), to categorize images into predefined classes in real-time, using the CIFAR-10 dataset as a foundation (**Tensorflow, Google Colab**).
- Library Management System (Java)**
  - Managing books, borrowers, and transactions. Implement features like book search, borrowing and returning books, generating reports, and managing user accounts (**SOLID principles, object-oriented programming**).