Ashmita Mittal

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Education

University of Waterloo, ON, Canada	Sep 2020 - *Present*
Bachelor of Computer Science (Hons.), Co-op	May 2025

Skills

Languages: Java, C++, C, Python, HTML/CSS, Racket, JavaScript
Frameworks: React, Flask, Django, MERN, Bootstrap
Tools: SQL, Selenium, Beautiful Soup, Linux, Git, Jinja, NumPy

Work Experience

Data² (USA Inc.) — Sep – Dec 2023
Software Engineering Co-Op — Remote

- Leveraging LLM and Generative AI on AWS for oil well abandonment and intelligence community applications.

Royal Bank of Canada — Jan – Apr 2023
DevOps Developer Co-Op — Toronto, ON

- Refactored Renovate (Dependency Management Tool) deployment processes using OCP deployment templates, GitHub App integration, secret management, and configuration management
- Contributed an updated Renovate repo to RBC's open-source community, achieving **100%** adoption across tech teams
- Enhanced CI/CD pipeline stage data collection for the DORA dashboard and integrated it with Elasticsearch
- Leveraged SonarQube and JaCoCo to place unit test coverage checks, preventing code contributions without proper testing
- Collaborated on writing JUnit-based unit tests for CI/CD source code, ensuring code quality and maintainability

Migrations.ml Inc. — May – Aug 2022
Software Developer Co-Op — Toronto, ON

- Designed microservice to perform real-time inference for a semi-parametric credit risk ML model for **950** corporate bond issuers using JAX, NumPy, and pandas
- Implemented compact chart.js visualization of credit analytics for **9000** corporate bonds, presenting credit curves and default term structures probabilities
- Used gRPC/protobuf to create an API, enhancing the interactivity and responsiveness for a React frontend application
- Developed efficient data models and table schemas using Alembic for Google Cloud SQL Postgres
- Used Kubernetes, Docker, and Airflow to deploy and orchestrate services enhancing the agility and scalability of services

Microsoft - Azure & Artificial Intelligence Fundamentals — May – Aug 2021
Project Team Member — Waterloo Experience (WE) Accelerate Program - Waterloo, ON

- Utilized Azure and AI fundamental skills to propose enhanced accessibility solutions addressing important global issues
- Suggested an **80%** more efficient AI-powered solution, outperforming competitor alternatives in real-time response
- Collaborated on a solution leveraging AI and ML for architect assistance in designing inclusive aesthetics for new projects
- Gained a comprehensive understanding of critical issues through intensive research and gap analysis

Nodwin Gaming — May – Aug 2021
Software Developer Co-Op — India

- Planned and developed the DreamHack 2021 website prototype for user onboarding, registration, tournaments management, tickets purchase, and interface for admins, boosting user satisfaction
- Collaborated on a robust Django-based backend, enhancing development team productivity
- Integrated an API for data collection in anti-cheat league operations mobile app
- Developed a data-querying dashboard interface for league admins to access player details seamlessly

Projects

- **Battle Snake Tournament** | *Python* 🔗
  Applied A* search algorithm for food search and opponent detection, ensuring optimal decision-making in a team
- **Dreamhack project** | *React & Flask* 🔗
  Developed a prototype for an esports tournament player's ticket booking
- **Research Assistant** (University of Waterloo - Political Science) — Mis/Disinformation Research Project

Achievements

- Microsoft AI & Azure fundamentals • President's Scholarship • Student Leadership Program (UW) • Trinity College London (Distinction) - Speech & Drama; Communication Skills • Cultural and Education Exchange (India - Netherlands)