

# ADWAIT KULKARNI

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## EDUCATION

### University of British Columbia

B.Sc. in Computer Science, Minor in Data Science | GPA: 3.8/4.0

Vancouver, BC

September 2020 – April 2025

- Developer in UBC Subbots, GDSC UBC, and Data Science clubs. Selected for Google's invite-only Software Product Sprint.

## EXPERIENCE

### Full-Stack Developer Intern

Royal Bank of Canada (RBC)

April 2023 – August 2023

Toronto, ON

- Architected Java Spring Boot microservices and REST APIs with Kafka pipelines, cutting access times for downstream services by 25%.
- Established a Kafka-based solution to allow developers to monitor metadata of 20+ production topics for 50+ applications, including current data offset, partition number, value, and timestamp on a dashboard.
- Led onboarding by creating developer environment setup guides and mentoring 2 hires, reducing ramp-up time by 75%.
- Selected as 'Top Talent' among pool of 1,400 summer interns and invited to leadership round-tables with EVP of Payments and Retail.

### Full-Stack Developer Intern

Royal Bank of Canada (RBC)

August 2022 – April 2023

Toronto, ON

- Automated service credentials setup by building a Spring + Thymeleaf tool, cut initial config time from 10+ mins to 2, for 200 developers.
- Secured sensitive secrets for 20+ applications by replacing local secrets storage with Hashicorp Vault for over 10,000 service accounts.
- Developed services to migrate HSBC data as part of the RBC acquisition project and released patches for outdated legacy libraries.
- Independently migrated 15+ services for client Deposit accounts across RedHat OpenShift and Pivotal Cloud Foundry PaaS platforms.

## PROJECTS

### ClusterVAN | Python, FastAPI, Scikit-Learn, pandas, Plotly Dash, Groq LLM, FPDF

January 2025 – May 2025

- Developed a platform to recommend new business opportunities in Vancouver by K-Means clustering 300K+ businesses over 6 years.
- Integrated Groq LLM to generate 5+ custom recommendations to open new businesses based on nearby competitors and geography.
- Generated an interactive Plotly dashboard with individual business clusters and legend drilldowns for detailed insights.
- Structured a scalable FastAPI backend and added individual business on-click PDF generation of AI-sourced insights.

### Distributed Database with Raft | Go, RPC, Raft

January 2025 – April 2025

- Engineered a fault-tolerant, replicated, distributed database with Go and Raft consensus algorithm based on Stanford ATC 2014.
- Improved leader election with heartbeats every 250ms to reduce split votes, achieved leader election completion in under 500ms.
- Achieved replicated logging via RPCs and recovery with snapshotting and log pruning to reduce recovery times from 750ms to 300ms.

### TL;DRReviews | React.js, Lambda, SageMaker, RDS, S3, Hugging Face, Docker

August 2024 – December 2024

- Created an AWS pipeline to analyze 6000+ reviews to provide students with individual course insights for better course selection.
- Launched a review summarization model with Google PEGASUS XSUM on AWS SageMaker and automated batch processing of reviews.
- Implemented AWS security with VPCs, IAM roles, Security Groups, and KMS—complying with CIS, CISA, and NIST standards.
- Shipped dynamic visualizations comprising sentiment scores, frequent keywords, and confidence scoring with D3.js, used by 50+ users.

### MovieHub | React.js, Node.js, Material-UI, Express.js, MongoDB, Docker

April 2024 – September 2024

- Led a team of 4 to build a movie recommender system by integrating TMDB API with a React.js frontend and Node.js backend.
- Programmed MongoDB-backed REST routes to persist user preferences and watchlists and enabled live updates via Redux global state.
- Executed authentication using bcrypt end-to-end hashing and JWT encryption with session handling and token lease expiry.
- Automated CI/CD and testing with GitHub Actions, Vitest, and Postman, and packaged with Docker Images.

## TECHNICAL SKILLS

**Languages:** Java, Python, JavaScript, Go, HTML/CSS, R

**Frameworks/Libraries:** Spring Boot, React.js, Node.js, Express.js, D3.js, pandas, Scikit-Learn, Altair, JUnit

**Tools/Technologies:** Apache Kafka, Git, Thymeleaf, Docker, AWS (SageMaker, S3, Lambda, RDS), OpenShift, Cloud Foundry

**Databases:** MongoDB, MySQL, Redis, H2, Elasticsearch