ADWAIT KULKARNI

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EDUCATION

University of British Columbia   **Vancouver, BC**
BS in Computer Science and Minor in Data Science   *September 2020 – April 2025*

- Developer in UBC Subbots and UBC Data Science clubs. Past participant of Google's invite-only Software Product Sprint (SPS).

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, Go, HTML/CSS, R, C/C++
Frameworks/Libraries: Spring, React.js, Node.js, Express.js, D3.js, pandas, Scikit-Learn, Material-UI, Mongoose, Altair, JUnit, Vitest
Tools/Technologies: Apache Kafka, Redux, Git, GitHub Actions, Docker, SageMaker, Jenkins, AWS, OpenShift, Cloud Foundry
Databases: MongoDB, MySQL, RDS, Redis, H2, Elasticsearch

EXPERIENCE

Full-Stack Developer Intern   **Toronto, ON**
Royal Bank of Canada (RBC)   *April 2023 – August 2023*

- Designed and delivered Java Spring microservices and APIs to extract and process mainframe account data, stream it via Kafka, and cache with Redis, cutting data recovery time by 25% for downstream services.
- Ideated and built a Kafka app to reduce metadata monitoring time of 20+ production topics for over 50 deployed applications.
- Took ownership of features in RBC's open-source projects, delivering 10+ enhancements and resolving 20+ bugs using Java and full-stack web tools; authored technical docs that drove a 50% increase in adoption.
- Led onboarding by building setup guides and mentoring 2 new hires, streamlining ramp-up and reducing team onboarding time.
- Chosen as 'Top Talent' among 1,400 interns over 1 year and invited to share project insights with the Payments EVP and Director.

Full-Stack Developer Intern   **Toronto, ON**
Royal Bank of Canada (RBC)   *August 2022 – April 2023*

- Built and deployed a Spring Web and Thymeleaf-based secrets retrieval tool that cut credential setup time from 10+ minutes to under 2 minutes per dev, boosting productivity for 200+ developers.
- Fortified secrets' storage for 20+ apps by utilizing Hashicorp Vault's API, covering 10,000+ profiles and 50,000+ client records.
- Administered and oversaw application maintenance by updating Maven dependencies, transitioning secret storage from YAML environments to cloud storage, and releasing patches for outdated third-party libraries - this reduced team tech debt by 40%.
- Authored cloud migration guides for RedHat OpenShift and Pivotal Cloud Foundry, and independently migrated 10+ apps.

PROJECTS

Distributed Key-Value Store with Raft | *Go, Raft*   **January 2025 – April 2025**
- Developed a fault-tolerant distributed key-value store from scratch using the Raft consensus algorithm from Stanford's ATC 2014 paper in Go, achieving strong consistency and creating persistent and replicated logs.
- Improved Raft election stability with randomized timeouts and heartbeat detection to reduce splits and accelerate convergence.
- Built replicated logging via RPCs and implemented adaptive retries to eliminate redundant calls and improve efficiency.
- Designed recovery with snapshots and log pruning, enabling reliable restarts and reducing recovery time from 750ms to 300ms.

TL;DReviews | *React.js, AWS Lambda, Amazon SageMaker, AWS RDS, AWS S3, Docker*   **August 2024 – December 2024**
- Designed and deployed a scalable AWS-based pipeline (Comprehend, Lambda, SageMaker, S3, RDS) to analyze 6,000+ UBC course reviews, generating real-time, student-focused insights through an interactive visualization dashboard.
- Built a text summarization ML model with Google's PEGASUS XSUM on AWS SageMaker, enabling automated batch processing of student reviews and generating course-level insights in 0.26 seconds per review, improving scalability for large datasets.
- Secured sensitive data by implementing AWS security best practices—VPCs, IAM roles, Security Groups, and KMS encryption (at rest and in transit)—ensuring compliance with CIS, CISA, and NIST standards.
- Developed dynamic visualizations with D3.js, showing sentiment, word clouds, and confidence scores for feedback insights.
- Cut AWS expenses by $20/month by replacing EC2-based solutions with Lambda auto-scaling for SageMaker endpoints.

MovieHub | *React.js, Node.js, Material-UI, Express.js, MongoDB, TMDB API, Docker*   **April 2024 – September 2024**
- Led a team of 4 to build a movie platform to rate, review, and share movies, owning both backend architecture and frontend UX.
- Implemented bcrypt and JWT-based encryption with session handling and token expiry, reducing unauthorized access.
- Designed evolving user watchlists via MongoDB Schemas and implemented caching strategies to cut response latency by 50%.
- Automated CI/CD and testing with GitHub Actions, Vitest, and Postman, and deployed production-ready apps using Docker.