ARYAN BALLANI

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SKILLS

Programming	: TypeScript | Java | Python | C++ | C |
Cloud and DevOps	: AWS | Azure | Docker | Kubernetes | Jenkins | GitHub Actions | Git
Web Tech/Frameworks	: React | JavaScript | Node.js | express | SpringBoot | REST | GraphQL | Next.js
Software Architecture	: Design Patterns | Microservices | System Design | OAuth | Multithreading
Databases	: MySQL | PostgreSQL | MongoDB

WORK EXPERIENCE

Machine Learning Engineer | *Railtown AI Inc., Vancouver*, BC *Jan 2025 – Present*

- Developed scalable, production-grade RESTful APIs using **FastAPI** and documented endpoints with **Swagger**, enabling seamless integration across services
- Architected and maintained asynchronous backend systems in **Python**, ensuring non-blocking execution for high-performance workflows and data pipelines
- Wrote efficient SQL queries for custom data extraction and feature serving, optimizing I/O-bound tasks and integrating with real-time monitoring tools
- Built automated CI/CD workflows using **Azure Pipelines**, accelerating deployment timelines and enforcing code quality through continuous integration
- Contributed to a modular, testable codebase by following clean software design principles and implementing unit/integration tests with **pytest** and **unittest**
- Supported microservice communication and containerized environments using **Docker**, ensuring reproducibility and smooth deployment transitions
- Collaborated with full-stack and DevOps teams to build maintainable system infrastructure from the ground up, ensuring product scalability and low latency
- Quickly ramped up on unfamiliar domains, independently delivering high-impact features and fixing critical production issues under tight deadlines
- Adapted to rapid changes in product direction while maintaining velocity and code quality, proactively proposing improvements and new architectural directions

Software Engineer – QA Automation | *BC Liquor Distribution Branch*, Burnaby, BC *May 2024 – Dec 2024*

- Increased testing efficiency by **25%** through automation with EPF, **.NET C#** (**Selenium**), and **Oracle SQL** scripts
- Enhanced application speed by **12%** by collaborating with developers, conducting performance testing, and writing unit test cases in **Spring-boot** using Mockito and **Junit**, and optimizing database access with SQL scripts.
- Used **Azure** Boards in 2-week sprints with daily **scrums**, delivering on deadlines and updating Azure Test Plans
- Reduced code redundancy and saved time by structuring base architecture for the CARM project and implementing comprehensive testing strategies (Regression, Smoke, End-to-End tests)
- Implemented **CI/CD pipelines** using Azure DevOps, resulting in a **30%** reduction in deployment time and improved collaboration between development and QA teams. This ensured faster delivery of high-quality software releases while maintaining system stability.

Undergraduate Teaching Assistant | UBC Computer Science Dept., Vancouver, BC *Jan 2024 – Present*

- Helping 12+ students, managing engaging labs with **50+ students**, explaining diverse computer science concepts for the Applied Machine learning Course (CPSC 330), and streamlining procedures communicating effectively.

- Guided students using **Python**, Scikit-learn, Matplotlib, Pandas, and Numpy to build NLP and ensemble models like XGBoost and RandomForest, improving model accuracy by up to **15%** through **cross-validation**.

VOLUNTEERING

Hackathon Mentor | *BCS Hacks 2025, UBC, Vancouver, BC* *May 2025*

- Mentored 100+ student participants by providing guidance on project ideation, implementation, and debugging across a wide range of technologies and domains.
- Reviewed ideas, suggested improvements, and supported teams in overcoming technical challenges, fostering creative and practical solutions.
- Collaborated with organizers and fellow mentors to ensure an inclusive, inspiring environment for participants to grow and connect.

RELEVANT PROJECTS

MoodFlow | *React, Express.js, MongoDB, Huggingface, GoogleMaps API* | *link* *Feb 2025*

- Integrated Mistral AI via **Huggingface API** for dynamic activity generation based on real-time user context and preferences.
- Connected **WeatherAPI** and **Google Maps API** to enable seamless geolocation-based recommendations and weather syncing.

Waste Net | *React Native, python, flask, AWS bedrock, MongoDB* | *link* *Oct 2024*

- Developed a mobile app using React Native, **Flask**, and **Python** to minimize food waste.
- Integrated **AWS** Bedrock for **GenAI**-powered recipe generation, using RAG for **caching** similar recipes.
- Build a RESTful API with **10+ endpoints** to manage user-specific inventories using **MongoDB**.

UBC Lens| *python, JavaScript, BERT, NLTK, Vue.js* | *link* *Oct 2024*

- Built web app for UBC students to pick course by applying **data warehousing** to analyze **5000+** course data entries.
- Integrated a chatbot locally by using **Ollama (Meta Llama 3.2)** to ensure data security during the interaction.
- Performed **sentiment analysis** and keyword extraction; won UBC Learning Analytics **Hackathon runner-up** prize.

Campus Capture| *TypeScript, JavaScript, HTML, CSS* | *link* *Jan 2024 – Apr 2024*

- Developed a web app for course data uploads and queries and improved processing efficiency by 35% for **50,000+** observations using **asynchronous** calls and parsing tools like parse5, fs-extra, and JSZip.
- Collaborated in an Agile team to rigorously test backend and frontend components **(75+ cases)** and ensure seamless integration via a **RESTful API**.

Movie-Time | *java, junit, jSwing, GUI, Git, json* | *link* *Jan 2023 – Apr 2023*

- Developed a **Java-based GUI** with JSwing for managing **50+** movies, supporting watchlist management and favorites tracking, with efficient data storage using JSON for a **20%** improvement in load/save time.
- Implemented an event log for activity tracking, reducing debugging time by **30%**, while following best practices in **software architecture** for modularity and maintainability.

EDUCATION

BSc. (Computer Science and Statistics), University of British Columbia *Sep 2021 – Apr 2026*

- Dean's Honor List sessional standing for 3 consecutive years: 4.0/4.33 GPA
- Relevant Coursework: Applied ML, Data Structures and Algorithms, Hardware and Operating Systems
- Awarded **the International Student Scholarship** for the academic year 2026 based on outstanding community presence and academic excellence.