**Aviral Garg**

Vancouver, British Columbia, Canada aviral.garg@icloud.com LinkedIn

**EXPERIENCE**

**Software Development Engineer**

Amazon Beauty Tech February 2021 – March 2025, Vancouver, BC

* **System Architecture & Leadership**
* Led 8-person cross-functional team developing Material Property Extraction system with end-to-end ML pipeline architecture.
* Architected event-driven serverless infrastructure processing 40+ TB daily data using AWS Step Functions, Lambda, and DynamoDB.
* Designed multi-stage deployment pipeline (alpha/beta/gamma/prod) with AWS CDK, reducing deployment time by 60%.
* **AI/ML Innovation**
* Built demand-forecasting ML models boosting prediction accuracy by 25% and reducing overstock costs by 15%.
* Implemented synthetic data augmentation techniques improving time-series forecasting accuracy by 8%.
* Developed VTO Discovery system integrating AR/VR microservices with real-time catalog processing.
* **Performance & Scale**
* Optimized distributed ML training workloads, mentoring 2 ML engineers and 1 researcher on scaling techniques.
* Implemented exponential backoff retry mechanisms and CloudWatch monitoring for production reliability.
* Established cross-team collaboration with Amazon catalog team for SNS/SQS integration.
* **Recognition**
* Won 1st place at Amazon 2022 Hackathon leading 4-person team developing AR iOS makeup tutorial application.

**Software Development Engineer**

Amazon Prime Pantry June 2020 – February 2021, Vancouver, BC

* Optimized critical APIs reducing page-load impact by 37% and increasing add-to-cart/checkout rates by 2.5%.
* Automated performance, stress, and load testing on ECS, decreasing SEV-3 incidents by 40% weekly.
* Integrated Amazon CodeGuru Profiler into team workflows, streamlining performance analysis across projects.
* Drove AWS CDK adoption across teams for CI/CD pipelines, saving 12+ developer-hours weekly.
* Achieved $30K annual cost savings through AWS infrastructure optimization and usage policy implementation.
* Deployed comprehensive monitoring dashboards and alerting systems for real-time service health tracking.

**AI Software Engineer Intern**

T4G Limited October 2018 – December 2019, Vancouver, BC

* Delivered Named-Entity-Recognition chatbot proof-of-concept securing $100K contract
* Improved promo-code generation efficiency by 40%, enabling 4 additional contracts and doubling department profits
* Automated 10-year version history extraction from 15 applications, saving 7 developer-hours weekly
* Built NLP chatbots on Azure using Node.js, Cosmos DB, and SQL serving 50+ million users globally
* Developed and maintained C# desktop applications and SSIS packages for enterprise-scale deployment.

**PROJECT**

**Resume Coach**

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* Built full-stack serverless web application providing AI-powered resume optimization and career guidance
* Implemented LLM-based analysis with contextual chat system and session persistence using DynamoDB TTL
* Deployed production application at coach.aviralgarg.com with custom domain and SSL
* Established comprehensive CI/CD pipeline with GitHub Actions, automated testing, and multi-region deployment.

**FastAPI Stock Gainers**

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* Developed full-stack application for real-time stock market tracking with user authentication and admin dashboard
* Integrated Yahoo Finance API with auto-refresh mechanism and color-coded visualization for gains/losses
* Implemented secure JWT-based authentication with password recovery and email notification system
* Deployed on Render.com with PostgreSQL persistence and responsive Bootstrap UI.

**Bob**

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* Created hands-free development platform eliminating manual typing and increasing AI platform capacity by 40x
* Implemented zero speech data loss during processing with real-time speech-to-tool-calls conversion
* Built accessibility solution for developers with physical limitations, enabling screen-free development workflow
* Designed multi-threaded voice assistant with 8 operational modes and sophisticated state management.

**EDUCATION**

**Bachelor of Applied Science, Computer Engineering**

Minor in Software Engineering Major • University of British Columbia • Vancouver, BC • 2019

**CERTIFICATIONS**

**Machine Learning Switch Up Program**

Interview Kickstart • 2024

* Advanced ML algorithms, data science techniques, and AI system design.

**AWARDS & HONORS**

**1st place**

Amazon Hackathon • 2022

* AR/VR application.

**SKILLS**

Python, TypeScript, React, Node.js, FastAPI, LangChain

PyTorch, SageMaker, NLP, LLM, RAG, MLOps, Time-Series Forecasting, Feature Engineering

AWS (CDK, Lambda, Step Functions, DynamoDB, Athena), Azure, Serverless Architecture

CI/CD, Docker, Git, Performance Optimization, System Design, API Design

C#, Cosmos DB, SQL, Real-time Speech Processing, Multi-threading, State Machine Architecture