Aviral Garg

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EXPERIENCE

Software Development Engineer | Amazon Beauty Tech | Vancouver, BC | February 2021 – March 2025
- Led cross-functional team of 8 engineers to architect serverless ML system processing 40TB daily Amazon catalog data.
- Enabled automated Virtual Try-On discovery and material property extraction scaling beauty product recommendations across millions of customers.
- Built Python-based AI assistant with Slack integration achieving 82% improvement in developer question resolution time.
- Projected 240+ developer-hours monthly savings demonstrating ROI measurement using AI analysis of exported chat logs.
- Spearheaded full-stack builder experience development for Amazon beauty store clients using React and Python.
- Integrated external microservices and A/B testing framework increasing client customization capabilities by 300%.
- Architected automated QBR/MBR reporting pipelines reducing manual reporting time by 90%.
- Achieved 100% stakeholder satisfaction across all reporting consumers through automated system implementation.
- Led organization-wide documentation workshop establishing systematic platform for subject-matter-expert reference.
- Won first place at Amazon 2022 Hackathon with AR iOS makeup-tutorial app leading four-person team.

Software Development Engineer | Amazon Prime Pantry | Vancouver, BC | June 2020 – February 2021
- Architected robust Kotlin applications achieving 100% test coverage for Prime Pantry API development.
- Optimized critical API performance reducing page-load impact by 37% and increasing add-to-cart conversion rates by 2.5%.
- Directly contributed to millions in additional revenue for Prime Pantry platform through performance improvements.
- Championed AWS CDK adoption across development teams for standardized CI/CD pipelines.
- Eliminated manual deployment processes saving 12+ developer-hours weekly while reducing deployment errors by 95%.
- Delivered $30K annual cost savings through systematic AWS infrastructure optimization and usage policy implementation.
- Automated developer onboarding by automating environment setup processes reducing setup time by 75%.
- Saved 3,528 developer hours annually across 7-person team while eliminating setup-related errors.
- Led organization-wide CodeGuru Profiler adoption across 7 projects reducing on-call incidents and maintenance hours.

AI Software Engineer Intern | T4G Limited | Vancouver, BC | October 2018 – December 2019
- Architected Named-Entity-Recognition chatbot proof-of-concept using NLP techniques directly securing $100K contract.
- Demonstrated AI capabilities to enterprise clients establishing company's reputation in AI/ML space.
- Optimized promo-code generation achieving 40% efficiency improvement enabling 4 additional high-value contracts.
- Doubled department's yearly profits directly contributing to company's revenue growth and market expansion.
- Delivered enterprise-grade Natural Language Processing chatbots on Azure cloud using Node.js, Cosmos DB, and SQL.
- Developed mission-critical C# desktop applications and SSIS data integration packages serving 50+ million users globally.
- Ensured 99.9% uptime and zero data loss across distributed systems.
- Automated extraction of 10 years of version history from 15 applications saving 7 dev hours weekly with Python scripts.
- Designed and implemented Windows-based CI/CD pipelines using Azure DevOps ensuring reliable build and deployment processes.

Software Engineer Intern — VR/AR | Texavie Technologies Inc. | Vancouver, BC | December 2017 - May 2018
- Engineered cross-platform mobile, desktop, and mixed-reality headset proof-of-concepts in Unity3D.
- Demonstrated wearable prototype concepts securing investor interest and validating product-market fit for emerging AR/VR technologies.
- Developed critical prototype debugging tools reducing calibration time by 60% enabling on-time product launch.
- Saved weeks of development effort while ensuring quality standards for consumer-ready AR/VR devices.
- Architected cross-platform game development pipelines for Windows, macOS, and Linux doubling target customer base.

PROJECT

Bob
· Automated hands-free development eliminating manual typing and increased Agentic AI platform capacity by 40x.
· Implemented zero speech data loss during processing with real-time speech-to-tool-calls conversion.
· Created accessibility solution for developers with back pain, visual impairments, and typing difficulties.
· Built multi-threaded voice assistant with 8 operational modes and state machine architecture.
· Integrated OpenAI Whisper for local ML-based speech recognition with real-time audio processing pipeline.

Pre-bunker health communications system
· Built production-ready prototype with comprehensive implementation across 19 versions achieving 65-80% risk reduction.
· Implemented 5-stage processing pipeline: Claim Extraction, Risk Assessment, Audience Simulation, Evidence Validation, Countermeasure Generation.
· Developed 12 specialized agent personas for comprehensive audience simulation with multi-source evidence validation.
· Created FastAPI web interface with async processing and real-time risk assessment.
· Developed novel Misinterpretability@k metric for quantifying health communication risk.

FastAPI Stock Gainers
· Built full-stack web application with FastAPI backend and SQLAlchemy ORM supporting async PostgreSQL/SQLite.
· Integrated Yahoo Finance API for real-time stock market data with comprehensive user authentication system.
· Created admin dashboard for database management with responsive Bootstrap UI and color-coded visualization.
· Deployed production application on Render.com with auto-refresh mechanism and custom stock symbol tracking.

Resume Coach
· Built full-stack AI-powered serverless web application using OpenAI GPT-4o-mini with LangChain framework.
· Designed serverless AWS architecture with Lambda, API Gateway, DynamoDB, S3, CloudFront.
· Created React 19 + TypeScript frontend with comprehensive CI/CD pipeline using GitHub Actions.
· Deployed production application at coach.aviralgarg.com with custom domain and SSL.
· Implemented session persistence with DynamoDB TTL and contextual follow-up chat system.

EDUCATION

Bachelor of Applied Science, Computer Engineering | University of British Columbia | Minor in Software Engineering Major | Vancouver, BC | 2019

Machine Learning Switch Up Program | Interview Kickstart | 2025

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