

Samar Kansal

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EXPERIENCE

Software Development Engineer (ML) | Amazon | Washington, D.C | May 2025 - Present

- Developed **Java backend microservices** with Coral/Smithy, AWS (API Gateway, Lambda, DynamoDB, SQS, and SNS). Dataset Mgmt service **cut feature duplication by 80%**, and the Model Registry + Execution Service lets users track and run models with different versions for efficient exploration.
- Engineered core components of CMOF**, a centralized ML platform supporting 20+ models and 120+ users, reducing production time by 60% through automated IaC and multi-environment CI/CD pipelines that slashed deployment cycles from 2 weeks to 2 days while maintaining strict governance.
- Architected high-throughput distributed systems** using AWS Step Functions and Glue PySpark to orchestrate the processing of **datasets scaled to 800B+ records**, migrating legacy Redshift-based queries into a centralized SageMaker Feature Store. Added automated validation rules and CloudWatch alerts, reducing manual setup from days to hours.
- Designed a Python-based Model Development Kit (SDK)** that automates Sagemaker image builds and remote execution by handling dependency resolution and S3 artifact packaging, allowing users to hot-deploy local code from Jupyter notebooks directly to AWS for rapid, iterative prototyping.

Software Engineer 1-2 | ServiceNow | Hyderabad, India | August 2020 - December 2022

- Architected REST and GraphQL APIs** powering the Service Operations Workspace for ITSM/ITOM use cases (e.g., incident, alert, and problem management) serving **5M+ users**; designed scalable data models enabling **2M+ daily transactions** with sub-millisecond **MySQL** access latency.
- Developed a multi-channel communication platform** (Java, REST, WebSockets) for **on-call and incident management workflows**, integrating **Twilio, Zoom, and Microsoft Teams** to automate **10K+ daily alerts** across SMS, email, and voice channels with **99.9% uptime**.
- Developed a DevOps/SRE management application on the **ServiceNow platform (JavaScript compiled to Java on the Rhino engine)** using **React, GraphQL, and MySQL**; implemented backend services integrating AWS and Azure to automate alerts and create incidents/changes based on user-defined rules.

Software Developer (GA) | Virginia Tech: Division of IT | January 2023 - April 2025

- Built and deployed an equipment-loaning platform in Spring Boot + React serving 50K+ students, containerized with Docker and running on Kubernetes in the university cloud.
- Migrated campus systems from Gmail to Outlook and improved IT workflows for 500K+ users by developing secure GraphQL + Angular components integrating Microsoft Azure APIs via OAuth 2.0 and enhancing reliability through full-stack debugging and performance tuning.

Software Developer Intern | ServiceNow | Hyderabad, India | July 2019 - December 2019

- Enhanced ITSM apps for **15K+ enterprises** using **JavaScript, GlideRecord, jQuery, and GlideAjax**, improving query performance by **25%**.
- Built a **React-based calendar scheduling component** adopted by **30+ internal teams**; automated testing with **Selenium + Jenkins** achieving **85% coverage** in CI/CD pipelines.

Software Developer Intern | AlphaICs | Bangalore, India | May 2019 - June 2019

- Created custom ML operations (OPs) for TensorFlow with C++ achieving 30% faster inference on edge devices.
- Implemented parallel programming techniques reducing computation by 3x for Molecular Dynamics using OpenMP and CUDA

SKILLS

Programming Languages: C/C++, Python, JavaScript, Java, Kotlin, SQL, TypeScript, PHP

Technologies & Frameworks: Spring Boot, Kafka, Databricks, Node.js, React.js, Express.js, Angular, Vue.js, jQuery, Bootstrap, Selenium, Autogen, FastAPI, Streamlit, Asio, SFML, nlohmann/json, SQLite, Box2D, OpenSSL, CMake, Tableau, TensorFlow

Databases: MySQL, PostgreSQL, DynamoDB, MongoDB, phpMyAdmin, Firebase, AWS S3, Aurora

Cloud Technologies: AWS Glue, Step Functions, Sagemaker, Kinesis, SQS, SNS, Kubernetes, Docker, Microsoft Azure, Google Cloud Platform (GCP)

CERTIFICATIONS

AWS Solutions Architect, AWS Developer Associate

PROJECTS

Attendify: Meeting scheduler and QR-based attendance management system | | youtu.be/KfypQMR2_yM

- Built a meeting scheduler, integrated with Google Calendar to send invitations to 300 members with unique, time-sensitive QR codes.
- Members can use the QR code to mark attendance securely, and organizers can generate tamper-proof attendance reports.
- Technology:** Vue.js, MongoDB, Express, Pinia for state management, JWT for authentication, containerized with Docker and Kubernetes.

CarCool: ML-Powered Ride Sharing Platform | | mycarcool.netlify.app/

- Developed a smart ride-sharing app with user-profile customization for lifestyle-based compatibility matching, similar to dating platforms.
- Enabled drivers to create location-optimized rides powered by Google Maps and passengers to find nearby carpool options with "Vibe Scores" display.
- Technology:** Python, FastAPI for RESTful APIs, MongoDB with geospatial indexing and geohashing, AWS EC2 for backend deployment with auto-scaling, Vue.js.

Ducky: Full-Stack AI Coding Assistant |

- Built a production-grade coding assistant with 95% accuracy using fine-tuned LLMs and AutoGen framework, featuring real-time code generation, GitHub integration, and automated testing across 5+ programming languages.
- Technology:** Python, Streamlit, Autogen, OpenAI, FastAPI.

EDUCATION

Masters in Computer Science | Virginia Tech | Blacksburg, Virginia | 2024 | 4.00

Bachelors in Electronics and Communication | BITS Pilani | Hyderabad, India | 2020 | 3.55