Samar Kansal

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EXPERIENCE

Software Development Engineer (ML) | Amazon | Arlington, VA | May 2025 – Present
- Engineered core components of CMOF (Centralized Modeling and Optimization Framework), a platform serving 120+ data scientists across the Devices org; reduced ML model development-to-production time by 60% through standardized templated workflows, deployment automation, and **infrastructure-as-code pipelines**.
- Developed **Java backend services** 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 let users track and run models with different versions for efficient exploration.
- **Designed high-volume ETL** and feature-engineering workflows using **AWS Step Functions,** EventBridge, **Glue, and EMR,** processing **800B+ input data rows** into SageMaker Feature Store; implemented dataset snapshots for versioning, enabling users to experiment with historical data, and reduced manual setup time from days to hours through automated pipelines with validation rules and CloudWatch alerts for incident tracking.
- Developed automated **CI/CD pipelines** for ML model deployment across multiple environments (Dev, Beta, Gamma, Prod), cutting deployment time from **2+ weeks to 2–3 days** while maintaining strict governance and testing requirements.

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