Samar Kansal

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Education

Virginia Tech	Dec 2024
Masters in Computer Science (GPA: 4.00)	*Blacksburg, Virginia*
BITS Pilani	July 2020
Bachelors in Electronics and Communication (GPA: 3.55)	*Hyderabad, India*

Technical Skills

Programming Languages: C/C++, Java, JavaScript, Kotlin, Python, SQL, TypeScript, PHP
Technologies & Frameworks: Node.js, Express.js, React.js, Angular, Vue.js, TensorFlow, jQuery, Bootstrap, PostgreSQL, MySQL, Selenium, Autogen, FastAPI, Streamlit, Kafka, Kubernetes, MongoDB, Asio, SFML, nlohmann/json, SQLite, Box2D, OpenSSL, CMake
Coursework: AI Tools in Software Development, Software Engineering, Web App Dev, Mobile Dev, DSA, Operating Systems, Database Management, Object Oriented Programming, Network Programming, Social Media Analytics

Experience

Division of IT, Virginia Tech　　　　　　　　　　　　　　　　　　　　　　　　　Blacksburg, VA
Software Developer (GA)　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Jan 23 – Present*
- Engineered a comprehensive institute-wide loaning system using **MySQL**, **Rhino-compiled JavaScript backend** scripting, and **RESTful APIs** for bulk request management, streamlining processes and reducing administrative workload.
- Migrated institute-wide processes between cloud platforms, implementing **microservices** architecture with **event-driven** design, integrating **OAuth** for authentication, and leveraging **GraphQL** for efficient data querying and real-time updates.

ServiceNow　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　Hyderabad, India
Software Engineer-2　　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Feb 22 – Dec 22*
- Developed a high-performance full-stack IT management platform, implementing **optimized database queries** on the backend and developing a responsive UI with **React** and **GoJS** for interactive data visualization.
- Developed a scalable SRE/DevOps application using GraphQL with MySQL for efficient data management, integrating a **Seismic (React-based)** frontend with **reusable components**, and implementing **real-time updates** for enhanced user experience.

Software Engineer-1　　　　　　　　　　　　　　　　　　　　　　　　　　　　　*Aug 20 – Feb 22*
- Built a multi-channel notification system with **MVC architecture**, **Java REST APIs**, and **WebSockets**, enabling automated SMS, email, and voice alerts integrated with Zoom, Twilio, and Microsoft Teams for **real-time communication**.
- Developed a Problem Management Migration Utility, implementing **complex data transformation** algorithms and **ETL processes** to transition records between schemas. Created a **responsive web interface** using **React.js** for streamlined large-scale migrations.

Software Developer Intern　　　　　　　　　　　　　　　　　　　　　　　　　　　*July 19 – Dec 19*
- Incident/Problem Management: Enhanced ITSM apps for 15,000+ organizations using internal JavaScript **scripting**, **jQuery**, **Vanilla JS**, and **GlideAjax**. Focused on feature improvements and error tracking with **GlideRecord** and **Client Scripts**.
- CI/CD: Developed and maintained automated test suites using **Java Selenium** within an **Agile** framework, integrating **Jenkins** for rapid regression detection in **SaaS-based** ITSM apps during sprints.

AlphaICs　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　Bangalore, India
Software Developer Intern　　　　　　　　　　　　　　　　　　　　　　　　　　　*May 19 – June 19*
- Created custom operations (OPs) for **TensorFlow** with **C++**.
- Implemented **parallel programming** techniques for Molecular Dynamics using the **OpenMP** library.
- Simulated a camera module interface in **C** for efficient image collection from multiple cameras with reduced memory usage.

Projects

- **Attendify: Meeting scheduler and QR-based attendance management system** Recorded Demo Link
  Description: Attendify is a web-based application that allows event organizers to schedule and manage meetings, while attendees use QR codes to check in and record their attendance. Deployed the application using Kubernetes for scalable and efficient management of containers.
  Technology: HTML, CSS, JavaScript, MongoDB, Express, Vue, Node, Pinia, Kubernetes.
- **CarCool: Your Vibe, Your Ride (Carpool Matching App)** Recorded Demo Link
  Description: Carpooling platform with a 'Vibe Score' using ML for user matching. Utilized Kafka for real-time notifications.
  Technology: React, MongoDB (including Spatial DB with geohash), Kafka, FastAPI, Python.
- **Ducky: Coding Assistant**
  Description: Crafted an advanced AI-driven coding assistant leveraging fine-tuned large language models with the AutoGen framework to ensure the generation of optimal code solutions.
  Technology: Open-source LLMs, Autogen, Python, Streamlit.
- **Video Streaming Application - MPTCP**
  Description: Developed a video streaming application using Multipath TCP (MPTCP) to serve multiple clients concurrently. Implemented a custom congestion control scheduler for efficient bandwidth utilization and seamless streaming.
  Technology: Python, OpenCV, TCP/IP, MPTCP, Socket Programming.