



Anuraag Sakxena

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Professional Summary

- AI-focused Full Stack Software Engineer with 6.5 years of experience architecting scalable, high-performance systems across enterprise fintech, telecom, healthcare, and AI-driven automation platforms. Currently building modular, multi-agent LLM powered test automation systems using Next.js, FastAPI, LangGraph, RAG pipelines, and PostgreSQL (pgvector), delivering production-grade AI solutions for large-scale enterprise environments.
- Proven expertise in frontend architecture, distributed systems integration, performance optimization, and data-intensive application design, with a strong track record of driving measurable impact through automation, system reliability improvements, and intelligent workflow orchestration. Combines deep technical execution with product thinking to build robust, scalable platforms that bridge AI innovation and enterprise-grade engineering.

Skills

- **Frontend:** HTML5, CSS3, JavaScript (ES6+), TypeScript, React.js, Next.js (App Router), Redux, Context API, Advanced React Patterns (Memoization, Controlled Effects, Lazy Loading), GraphQL, jQuery, Apache ECharts, Responsive Design, Component Architecture, Recursive Tree Rendering, Deep-Link Routing, State-Driven Rendering, UI Performance Optimization.
- **Backend:** Python, Go, C, C++, C#, PHP, Node.js, .NET, FastAPI, Flask, Django, RESTful APIs, GraphQL APIs, Kafka, Spark, Hadoop, TensorFlow, ONNX Runtime, LangGraph, RAG Pipelines, Multi-Agent LLM Systems, API Design, Concurrency Handling, Microservices Architecture, Secure Payment Gateway Integration.
- **AI / Machine Learning:** Large Language Models (LLMs), Multi-Model Orchestration, Prompt Engineering, Contextual Embedding, pgvector, Retrieval-Augmented Generation (RAG), Word2Vec (NLP), Sentiment Analysis, Edge AI Deployment (SNPE), AI Workflow Orchestration.
- **Databases:** PostgreSQL, MySQL, MS SQL Server, T-SQL, Oracle, SQLite, Snowflake, MongoDB, Cassandra, Redis, dbt, ORM, SQL Optimization, Index Strategy Design, ETL Pipelines, High-Volume Dataset Processing (500K+ records), Normalized Schema Design (50+ tables, 90+ constraints).
- **Cloud & DevOps:** AWS (EC2), Azure Web Services, Docker, Kubernetes, Terraform, CI/CD Pipelines, Containerization, UAT/DEV Environment Management, Production Build Optimization, UNIX Shell Scripting.
- **Systems & Architecture:** Distributed Systems Integration, Scalable System Design, Clean Architecture Principles, Modular UI Framework Design, Performance Tuning, Asynchronous Programming, Message Queuing, Enterprise Workflow Automation, Data Pipeline Synchronization.

Experience

Kaya Global, USA

Feb 2025 – Present

Software Engineer (Client – Citigroup)

- Architected and implemented a modular, multi-domain AI-driven test automation interface using Next.js App Router and advanced React patterns, delivering a scalable enterprise UI platform supporting 120+ users across complex admin, analytics, studio, and release workflows.
- Developed reusable component libraries and shared UI primitives to standardize layouts, grid systems, modal orchestration, tree structures, and visualization layers accelerating frontend delivery while strengthening long-term maintainability.
- Engineered a state-centric rendering architecture leveraging memoization, controlled side effects, lazy hydration, and contextual state isolation to eliminate redundant renders and sustain responsiveness during high-volume artifact operations.
- Designed hierarchical, tree-based navigation systems with recursive rendering and deep-link routing, enabling intuitive traversal of nested project, release, and test-case relationships within a multi-tenant environment.

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- Built interactive analytics dashboards using Apache ECharts, integrating dynamic time-series data, delta tracking, contributor heatmaps, scope-based metrics, and drill-down reporting to enhance real-time QA decision-making.
- Implemented API first frontend integration across 70+ structured FastAPI endpoints, incorporating pagination, concurrency aware request handling, synchronization tracking, and audit logging to ensure seamless coordination between UI workflows and backend pipelines.
- Integrated AI/LLM driven test generation modules through configurable model selection, contextual artifact ingestion, prompt parameterization, and deterministic orchestration pipelines reducing manual test creation effort by 80% and expanding scenario coverage.
- Enabled Gherkin/BDD feature generation and template-driven scenario management within the UI, bridging technical and business requirements while improving clarity and reducing requirement-related defects.
- Applied NIST combinatorial testing strategies through frontend triggered statistical optimization endpoints, maximizing test coverage efficiency while minimizing execution overhead.
- Implemented enterprise-grade role-based access control (RBAC), project level permissions, and release-context isolation, strengthening governance, compliance posture, and multi-team collaboration.
- Designed advanced import/export pipelines and dynamic attachment handling to support flexible file processing, legacy migration, and cross-tool integrations within the automation ecosystem.
- Collaborated on normalized PostgreSQL schema architecture (50+ tables, 90+ constraints), aligning index strategies and optimizing query interactions to maintain performance across large-scale datasets.
- Refactored cross-layer codebases to enforce clean architecture principles, reduce coupling, and enhance component modularity, improving system stability and code readability.
- Improved perceived application performance through incremental loading strategies, conditional rendering, and structured async feedback mechanisms for long-running AI generation and synchronization processes.
- Ensured deployment readiness across DEV and UAT environments by validating configuration boundaries, API contract consistency, and production build optimizations.

KeelWorks Foundation, USA

Jun 2024 – Feb 2025

Front End Developer

- Designed, developed, and tested responsive web applications and mobile solutions using C#, .NET technologies, and modern frontend frameworks like React and Angular, ensuring seamless user experiences.
- Integrated APIs with XML/XSLT and optimized database interactions using SQL Server reducing query execution time by 35%.
- Collaborated with cross-functional teams to create technical documentation and user manuals, enhancing efficiency by 30%.
- Participated in a software development lifecycle, including requirements gathering, architecture design, and system compatibility testing.
- Implemented Agile methodologies to manage sprint planning and deliver high-quality solutions on time.

SKYSTARWOODS LLC, USA

Jan 2024 - May 2024

Lead Developer (Capstone Project)

- Led SKYSTARWOODS e-commerce website project from concept to launch, managing a team of 6 to surpass project goals.
- Developed a digital platform with HTML, CSS, JavaScript, Next.js, and Python, enhancing site functionality and scalability.
- Optimized backend performance using Apache Spark and Redis, reducing API call drop rates by 30% and retrieval times by 50%.
- Streamlined client conversion with a digital contracting system, halving inquiry-to-sale times and reducing critical bugs by over 40%.

Qualcomm, India

May 2023 - Aug 2023

Software Engineer Intern

- Simulated a Facial Emotion Recognition App on AI edge devices using SNPE.
- Enhanced GPU, CPU, and DSP usage with ONNX Runtime, doubling execution speed by 50%.
- Employed TensorFlow's Word2Vec for NLP to automate suggestions, enhancing sentimental analysis quality by 35%.
- Collaboratively established a python tool to improve Qualcomm's camera flow debugging mechanism.

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- Earned recognition for comprehensive contributions and inclusion in the Qualcomm Developer Network.

Yodaplus Technologies, India

Jan 2022 – Jul 2022

Senior Software Engineer

- IDB Invest Project: Systems integration and optimize fintech solutions, boosting operational efficiency and client data management.
- Built a Django-based website with real-time chat and search functions using Azure Web Services.
- In database, reducing process time by 75%, enhancing user connectivity, and improving business efficiency.
- Applied FACT SDK with MS SQL and GraphQL in system integrations, reducing errors by 60% and boosting audit efficiency.
- Architected MongoDB based reports for a dataset of over 500,000 data points, significantly enhancing client data understanding and enabling more informed decision making.
- Integrated secure payment gateways across platforms, maintaining data privacy and saving \$60,000 annually.
- Led sprint planning and execution, streamlining product development to transition from ideation to delivery within 2 weeks.

Tech Mahindra, India

Jul 2019 – Dec 2021

Software Engineer

- MTN Project: Advanced Data automation, server efficiency with Python scripting and MS SQL.
- Created Python scripts with regular expressions to enhance telecom server reading efficiency by 80%.
- Crafted SQL stored procedures, ETL, and scheduled jobs, achieving 100% automation of related processes.
- Engineered a Python tool to optimize data extraction and distribution across WebLogic servers, saving over \$25,000 annually in server runtime costs.
- Endo Pharmaceutical Project: Designed scalable APIs, improved data workflows, using AWS and Kafka to enhance system reliability.
- Engineered Django RESTful APIs with AWS, automating EMR system data collection and cutting processing time by 90%.
- Integrated Apache Kafka for backend message queuing, reducing API call drop rates by 25% and enhancing system reliability, deployed applications on AWS EC2 for improved scalability.

Education

- MS, IT and Management (STEM), The University of Texas at Dallas, USA Aug 2022 - May 2024
- BTECH, Computer Science and Engineering, VIT University, Vellore, India. Jul 2015 - May 2019

Publications

- **Sakxena, A., et al.** "Performance Comparison and Analysis of Slowloris, GoldenEye and Xerxes DDoS Attack Tools," *2018 IEEE International Conference on Advances in Computing, Communications and Informatics* — Conducted comparative performance analysis of DDoS attack tools to evaluate network vulnerabilities and inform cybersecurity countermeasures. ([view](#))
- **Sakxena, A., et al.** "Alerting System for Medicine Dispensing," *International Journal of Advanced Research in Engineering and Technology*, 2019 — Designed and implemented an authenticated medicine alert system to improve medication adherence and prevent unauthorized access. ([view](#))

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