SAMIR KHAN

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Education

Northeastern University, Khoury College of Computer Science — Boston, MA
Master of Science in Computer Science (GPA: 3.77) — *Jan. 2025 – May 2027*

University of Mumbai, Atharva College of Engineering — Mumbai, IN
Bachelor of Engineering in Information Technology (GPA: 3.67) — *July 2019 – Sep. 2023*

Experience

Wintel Systems PVT LTD — **Sep. 2023 – Dec. 2024**
Software Engineer
- Built and maintained full-stack features for internal operations platform, developing Java Spring Boot microservices, REST APIs & React components with TypeScript, HTML & CSS, replacing manual workflows with self-serve interfaces.
- Designed and optimized relational database schemas in MySQL/PostgreSQL; added composite indexes, server-side pagination and Redis caching for hot reads, which decreased p95 API latency by ∼30% under peak load.
- Containerized services with Docker and implemented CI/CD in Bitbucket Pipelines for build/test/deploy; shipped on AWS (EC2/ALB, RDS, S3, Lambda) enabling zero-downtime deployments and automated rollbacks.
- Implemented JWT/RBAC auth, request validation, error handling, and UX improvements (loading states, client-side guards). Collaborated in Agile/Scrum across cross-functional teams, conducting code reviews to deliver solutions.

Krazy Fox — **Jan. 2023 – Aug. 2023**
Software Engineering Intern
- Extended Spring Boot REST API with versioned endpoints using MVC architecture and separation of concerns; Implemented DTO pattern Bean Validation annotations & mapper utilities to decouple persistence from API contracts.
- Developed reusable React components with TypeScript interfaces, integrated REST APIs using React Query for server state management, implemented WCAG 2.1 accessibility standards & comprehensive form validation with React Hook Form.
- Wrote SQL scripts and migrations (PostgreSQL/MySQL), adding indexes/constraints to speed filter/search pages.
- Participated in Agile ceremonies & code reviews; used Git/Bitbucket & concise PRs to accelerate feedback.

Projects

Real-Time Data Streaming Pipeline | *Kafka, Spark, Airflow, Docker, Cassandra, AWS*
- Designed streaming pipeline with Kafka/Spark topology processing 50k+ events at <500ms latency with exactly-once semantics. Orchestrated 10+ data sources via Airflow DAGs, storing in Cassandra (time-series) & PostgreSQL (analytics). Containerized 8 microservices using Docker, achieving single-command deployment & horizontal scaling.

Collaborative Document Editor | *Next.js, WebSockets, Redis, PGSQL* | Live Demo
- Engineered real-time collaborative editor with Next.js, WebSockets, and Operational Transformation algorithms supporting 20+ concurrent users with <200ms sync latency. Implemented PostgreSQL JSONB for delta storage, Redis pub/sub for cursor tracking, and auto-save. Developed conflict-free editing with rich text formatting & version history.

Blockchain E-Voting System | *Ethereum, Solidity, Web3.js*
- Created decentralized voting App on Ethereum using Solidity smart contracts and Web3.js with commit-reveal voting scheme for ballot privacy. Optimized gas consumption by 30% through struct packing, reducing costs to $2/vote.
- **Published:** Decentralized Blockchain E-Voting – International Scientific Journal of Engineering & Management.

Real-Time Chat & Community Platform | *Next.js, Socket.IO, WebRTC* | Live Demo
- Developed full-stack messaging platform with Next.js, Socket.IO, and Prisma ORM supporting text/voice/video for 100+ concurrent users. Implemented WebRTC peer-to-peer calls, Redis message queuing, S3 file uploads, and role-based permissions. Integrated channel management, invite links, and adaptive WebSocket/polling fallback.

SaaS AI Support Platform | *GPT-3.5 API, MongoDB, Stripe, Socket.IO*
- Built multi-tenant B2B platform integrating GPT-3.5 API achieving 70% auto-resolution rate, reducing response time from hours to under 2 minutes. Implemented MongoDB tenant isolation, Stripe billing, and Socket.IO chat serving 50+ enterprises. Developed analytics dashboard tracking tickets, KPIs, and user behavior with role-based access control.

Technical Skills

Languages: Python, Java, JavaScript, TypeScript, Kotlin, Bash, C/C++, C#/.NET, Swift, Solidity, React Js, R
Web & App Development: Spring Boot, Django, Flask, FastAPI, React, Angular, Node.js, Next.js, RESTful APIs
Cloud & DevOps: **AWS Certified Solutions Architect**, Google Cloud, Azure, Docker, OpenShift, CI/CD, Jenkins, GitHub
Big Data & Databases: Apache Spark, Hadoop, Kafka, RabbitMQ, MySQL/PostgreSQL, MongoDB, Redis
Data Science & ML: TensorFlow, PyTorch, scikit-learn, Seaborn, Pandas/NumPy, Tableau, Matplotlib, Power BI