Bhavesh Ittadwar

Full-stack engineer | Real-time systems · React · Kafka · Docker

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EDUCATION

North Carolina State University, Raleigh, NC, USA — August 2023 - May 2025
Master of Computer Science — **GPA: 4/4**
Related Courses: Algorithms, Computer Networks, DBMS, Cloud Computing, Software Security, Neural Networks

Savitribai Phule Pune University, Pune, India — August 2016 - May 2020
Bachelor of Technology, Computer Engineering — **CGPA: 8.84/10**

TECHNICAL SKILLS

Languages: JavaScript, TypeScript, Java, HTML, CSS, SQL
Databases: MongoDB, PostgreSQL (JPA), MySQL
Frameworks/Tools: React.js, Redux, Next.js, Node.js, Spring Boot, GraphQL, Tailwind, Storybook, SASS/SCSS
Cloud/Security: AWS, Azure (AZ-900), Docker, Kubernetes, Kafka, GitHub/GitLab, OWASP ZAP, SonarQube, JWT
Methodologies: Agile, Object-oriented programming, RESTful APIs

EXPERIENCE

Software Engineer - Michelin, India — December 2020 - July 2023
- Built a scalable consumer engagement program for 90,000+ users with **Svelte** for modular, reusable UI components
- Integrated Google Analytics and **Kafka**, increasing customer retention by 13% through a targeted loyalty program
- Refactored complex multistep form with **Redux**, improved state handling and increased overall completion rate by 18%
- Established a component library in **Storybook** based on atomic design, reducing UI bugs and review time by 20%
- Built a configurable maintenance widget backed by **Mongo** schema, enabling scheduled downtime and messaging

Software Engineer, Intern - Michelin, India — January 2020 - May 2020
- Built and tested a **GraphQL** dashboard with Mocha/Chai with 95% test coverage for monitoring APIs and data flow
- Refactored legacy code with **SonarQube**, fixing 3–5 monthly security issues and boosting API efficiency by 30%
- Automated test workflows via Shell scripts and **GitLab CI**, reducing manual QA effort by ~40% during dashboard build

Software Engineer, Intern - Bluecoin IoT Solutions, India — June 2019 - July 2019
- Implemented **RBAC**, JWT auth, and form validation in a Node.js portal to ensure secure, role-based onboarding access
- Conducted a full security audit with OWASP ZAP and resolved Top 10 vulnerabilities in a **Spring Boot**/Hibernate stack
- Built a responsive **React** portal for client onboarding that reduced load times by 15% and improved user experience

PROJECTS

Machine Learning:
LLM-Powered P2P Chat App
- Engineered full-stack chat with Svelte + TypeScript frontend using **WebRTC** (simple-peer) and Node.js/Express backend integrated with LangChain & GPT-3.5 for AI responses
- Achieved ~50 ms peer-to-peer messaging & ~150 ms AI latency; deployed on AWS Lambda for 100+ sessions

Fullstack Web Development:
Distributed Order-Processing Microservice
- Architected a **Spring Boot** microservice with JPA + PostgreSQL; processed 10 K orders/min with idempotent, ACID logic
- Exposed REST + gRPC endpoints, secured with JWT; achieved 90 % test coverage

Distributed Kanban Board
- Designed and deployed a MERN application with React frontend and Node.js/Express backend, using MongoDB change streams and **WebSockets** for real-time task updates across multiple users
- Designed a microservices architecture with **Docker** and Kubernetes for horizontal scaling, and implemented optimistic UI updates to ensure conflict-free state synchronization

Security:
OpenEMR Security Analysis
- Reviewed OpenEMR 7.0.2 using MITRE ATT&CK; uncovered 30 critical vulnerabilities across core modules
- Secured the system with Node.js scripts, SonarQube, **OWASP ZAP**, and threat modeling to mitigate exploit risks