

# SUSHMA RAVICHANDRAN

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Full Stack Software Engineer with hands-on experience building secure, scalable web applications and RESTful APIs. Strong background in React-based user interfaces, relational database design (MySQL), and backend development with Node.js and Java-based services. Experienced in working with sensitive data, applying security-first principles, and designing accessibility-aware user interfaces. Passionate about EdTech and mission-driven platforms that improve student outcomes, safety, and early intervention through technology.

## EDUCATION

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### University of Wisconsin- Milwaukee

Master of Science in Computer Science, GPA: 3.5/4, Expected May 2026

### Sri Eshwar College of Engineering, Anna University

Bachelor of Engineering in Computer Science, GPA: 8.7/10, Aug 2018 – April 2022

## EXPERIENCE

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### ASSOCIATE ENGINEER – FULL STACK DEVELOPER, VIRTUSA CORPORATION, INDIA May 2022 – Aug 2024

- Designed, developed, and maintained **RESTful APIs** supporting core banking workflows and internal systems.
- Built and enhanced backend services handling **authentication, authorization, and role-based access logic**.
- Collaborated with frontend teams to support user-facing workflows and data-driven UI features.
- Optimized **MySQL and SQL queries**, improving performance and ensuring transactional integrity.
- Implemented event-driven processing using **Apache Kafka** for reliable system communication.
- Worked in an Agile environment using **Git/GitHub and JIRA**, participating in code reviews and sprint planning.
- Applied secure coding practices and defensive error handling in production systems handling sensitive financial data.

## PROJECTS

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- **Medical Similar Case Search Engine**([Github](#)): Built a system to retrieve clinically similar cases from medical text data using TF-IDF and Weighted Locality Sensitive Hashing (LSH). Designed relational database schemas and optimized SQL queries for efficient retrieval. Exposed similarity search functionality through REST-style APIs with privacy-aware data handling.
- **NLP-Based Resume Screening and Ranking System**: Built a file-parsing and NLP-powered system using SBERT, spaCy, and Regex for resume-to-JD matching. Integrated Explainable AI to highlight matched/missing skills, achieving 90% Precision, 85% Recall. Developed modules to handle PDF/DOCX parsing, structured/unstructured data processing.
- **Cross-Site Scripting XSS Attack Simulation and Defense**: Simulated stored and reflected XSS attacks on the Elgg platform, including cookie theft and worms. Designed defensive mechanisms using Content Security Policy, Apache, and PHP headers.
- **Adaptive Learning Interface vs Static UI (Research Study - [Github](#))**: Designed and evaluated an adaptive learning interface using React to personalize instructional content. Conducted user studies comparing adaptive and static interfaces based on engagement and learning outcomes. Applied accessibility-aware UI design principles aligned with WCAG guidelines.

## SKILLS & EXPERTISE

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- Languages, Frameworks: JavaScript, Python, Java, SQL, REST API, TestNG.
- Front-End: Angular, HTML, CSS, Figma, Interactive UI/UX.
- Back-End: Java, Spring Boot, Node.js, Hibernate, JWT, Role-Based Access Control (RBAC), Secure API Design
- Testing Types: Functional, Regression, API Testing, Negative Testing, Data Validation
- Tools & Platforms: Eclipse, IntelliJ IDEA, VS Code, Spring Tool Suite, Postman, JIRA, Apache Kafka
- Cloud & DevOps: AWS (Lambda, EC2, S3, CloudWatch, RedShift), Docker, Git.

## CERTIFICATION

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- OCJA Certified Java 8 – Oracle (Dec 2021)
- AWS Developer Associate – AWS (Jan 2024)
- Certified Tester Foundation Level (CTFL) – ISTQB (March 2023)

## LEADERSHIP & VOLUNTEERING

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- Virtusa CSR Initiative: Distributed school kits to underprivileged children.
- Student Representative, Sri Eshwar College of Engineering (2018–2022).
- Organized seminars on higher education and coordinated SPARK sports event.
- Vice President of Media Max Club, President of Cloud Club.
- Mentor for Toastmasters Club (4 years), active member of Passionate Programmers Club.