SHIKHA VERMA

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SUMMARY

Software Engineering graduate with 3 years of full-stack development experience, specializing in object-oriented programming, database management, and Rest APIs. Proficient in **Java, JavaScript, Python**, and various frameworks/tools. Experienced in optimizing database queries and enhancing communication efficiency through custom APIs.

WORK EXPERIENCE

Silicon Labs May 2024 - August 2024
Application Engineering Intern *Austin, Texas*

- Built an end-to-end fuzz testing pipeline for the Gecko bootloader by adapting embedded code to PC environments using **Docker, Make, and libFuzzer**, to help development teams uncover and address security vulnerabilities.
- Evaluated security features of the SiWx917 (Bluetooth and Wi-Fi) with competitors Espressif ESP32-C6 and TI CC3301; delivered detailed analysis to drive targeted feature requests, strategic enhancements, and improve user experience.
- Reproduced a **buffer overflow** vulnerability in the Gecko bootloader by removing outdated dependencies from a Proof of Concept (PoC), showcasing persistent **remote code execution** capabilities even with secure boot enabled.

GMO Research October 2020 - July 2023
Software Development Engineer *Tokyo, Japan*

- Engineered a significant improvement to the feasibility system by smoothly transitioning from the **MVC** framework to a robust **Client-Server architecture**, employing cutting-edge technologies like **SpringBoot and CakePHP 3**.
- Optimized the **MySQL** queries of the backend system, leading to a substantial **30%** boost in data retrieval efficiency for a vast database encompassing **1.2 million panelists** across **2000 panels**, optimizing data handling and processing capabilities.
- Integrated **5+ client APIs**, seamlessly into our system, fostering a robust ecosystem for streamlined data exchange and enhancing service capabilities. This strategic integration significantly contributed to a notable **20%** increase in revenue.
- Created bespoke **Kotlin APIs** to optimize communication, slashing response times by **25%** for point grant information delivery to clients, demonstrating a focused approach to enhancing system efficiency and user experience.

EDUCATION

Arizona State University, Tempe, Arizona, USA August 2023 - May 2025
Masters of Science in Software Engineering (GPA: 4.00/4.00)

Indian Institute of Technology, Goa, India August 2016 - May 2020
Bachelors of Technology in Computer Science and Engineering (GPA: 8.24/10.00)

TECHNICAL SKILLS

Programming Languages	Python, Java, JavaScript, TypeScript, MySQL, Bash
Frameworks	SpringBoot, FastAPI, Node.js, React
DevOps / Site Reliability	Docker, AWS, CI/CD, Git
Testing	JUnit 5, pytest, PHPUnit

PROJECTS

Taiga-Based Scrum Metric Calculator January 2024 - May 2024

- Designed a web application based on an **orchestrating Microservices** architecture leveraging Taiga API to compute and visualize **8** standard and tailored scrum metrics using **React, FastAPI and SpringBoot**.
- Implemented multithreading to optimize application performance, reducing response time from **2 minutes to 15 seconds**.
- Streamlined code quality assurance by creating a **CI/CD pipeline** that runs **unit tests** and **static analysis** on Sonar with every push, resulting in faster feedback and improved code reliability.

Deep Learning Vulnerability Detection In Python Source Code January 2024 - May 2024

- Achieved a top accuracy of **92%** in detecting vulnerabilities in **Python** code using Neural Networks, outperforming other models like Gradient Boosting **(91%)** and Random Forest **(91%)**.
- Transformed raw source code into a machine-understandable format through **vectorization** and **tokenization**, enabling the application of machine learning models and improving vulnerability detection by up to **16%**.
- Evaluated **5** machine learning models, selecting **Neural Networks** for scalability and continuous learning capabilities.

Card Game Based Scrum Simulator August 2023 - December 2024

- Created a card game based scrum simulator using **JAVA, Swing and Spring** by following scrum methodologies.
- Introduced blocker and progress cards and their randomized selection, enhancing stand-up simulations to mirror real-world scenarios effectively. Automated Scrum Master responses based on developer availability.
- Developed a feature to download Scrum data by sprints, fostering in-depth data analysis and retrospective insights.