AMOSH SAPKOTA

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Result-driven Software Engineer with 3+ years of progressive experience developing enterprise-grade solutions across server, desktop, and mobile platforms. Skilled in Python, Java, C#, C/C++, and JavaScript, with experience in frameworks such as Flask, React, Spring, and .NET. Strong problem-solving skills and expertise in OOPs, design patterns, and secure coding practices. Proven track record of building scalable web applications leveraging various AWS cloud services.

EDUCATION

University of Texas at Arlington, *Masters in Computer Science* | Arlington, TX   2022 - 2024

KL University, *Bachelors in Computer Science and Engineering* | Guntur, India   2017 - 2021

EXPERIENCE

University of Texas at Arlington, *Research Assistant* | Arlington, TX   Sept 2024 - Present

- Improved web application performance by optimizing RESTful API design and conducting thorough code reviews, resulting in a 15% reduction in API response time and enhanced maintainability and scalability.
- Implemented JWT (JSON Web Tokens) to secure user authentication and manage role-based access control for users, enabling scalable access and improving system performance through reduced server-side session management.
- Led the migration of a web application to a Service-Oriented Architecture (SOA), improving overall system performance and scalability.

University of Texas at Arlington, *Graduate Research and Teaching Assistant* | Arlington, TX   Sept 2022 - May 2024

- Developed a secure and scalable web application for clinical research in oncology (cancer studies) using Flask (Python) for backend development, React for frontend components, and MySQL as the relational database.
- Leveraged PySpark to optimize large-scale data analysis, reducing processing time by 40%, and implemented RESTful APIs for efficient data handling.
- Spearheaded cross-functional collaboration on web application architecture, database design, and GIT version control, ensuring proper branching strategies and code reviews to deliver features on schedule.
- Mentored 50+ graduate students on artificial intelligence, web data management, and big data processing courses.

Xelwel Innovation, *Software Engineer* | Kathmandu, Nepal   June 2021 - July 2022

- Contributed to the development of a C#/.NET WPF application for inventory management, to deliver a user-friendly desktop application, resulting in 8% reduction in inventory errors, and 5% increase in order fulfillment efficiency.
- Executed creative software solutions using Java Spring Boot, in a microservices architecture, improving application performance and data processing speed by 30%.
- Developed and maintained Java enterprise applications within a DevOps environment, contributing to the automation of build, testing, and deployment processes using Jenkins and Maven.
- Developed and implemented automated API testing using REST Assured and JUnit within a Jenkins CI/CD pipeline, reducing API testing time by 30% and improving overall testing efficiency.
- Developed and deployed scalable cloud solutions on AWS, utilizing services like S3 for storage, RDS for relational databases, EC2 for compute resources, and DynamoDB for NoSQL database needs, ensuring high availability and scalability of enterprise applications.

PROJECTS

Distributed File RPC [Distributed Systems, RPC Servers, Python] Link

- Implemented single-threaded and multi-threaded file servers with support for file management functionalities using message-oriented communication.
- Developed computation servers using synchronous, asynchronous, and deferred synchronous RPCs to handle complex numerical and algorithmic computations like sorting and matrix multiplications.

Distributed Systems: Multicast, Vector Clocks, and Locking [Apache ZooKeeper] Link

- Developed a distributed system with totally ordered multicast, vector clocks, and a distributed locking mechanism using Apache ZooKeeper to ensure consistent event ordering and secure access control.
- Ensured fault tolerance and scalability by implementing leader election and synchronization mechanisms, allowing for consistent state management across distributed nodes.

Sentiment Analysis Using Large Language Models [LLMs, NLP, Transformers] Link

- Implemented BERT with Whole Word Masking & Adversarial Training for sentiment analysis on car reviews, enhancing contextual understanding of LLM, achieving a peak accuracy of 78.85%.

SKILLS

Programming & Scripting Languages: Java, C/++, C#, Python, SQL, NoSQL, HTML, CSS, JavaScript / TypeScript
Frameworks & Cloud Services: Spring Boot, React, Node.js, Flask, .NET, AWS (S3, EC2, RDS, DynamoDB)
Developer Tools & CI/CD: Git, GitLab, Jenkins, Docker, VS Code, Maven, JUnit, Pytest, Postman
Methodologies & Architecture: Agile, CI/CD, Microservices Architecture, Security Best Practices