UDIT SHARMA

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SUMMARY

Skilled Software Engineer with expertise in Python, C++, React Native, and AWS, specializing in full-stack development, CI/CD pipelines, and performance optimization. Strong problem-solving abilities with experience in system design, REST API integration, and deep learning. Adept at team collaboration, providing technical support, and automating workflows using Docker and Appium.

EDUCATION

Master of Science (M.S.) in Computer Science - **Santa Clara University**, Santa Clara, CA ***March 2022***

Bachelor of Technology (B.Tech) in Computer Engineering - **University of Petroleum and Energy Studies,** Dehradun, India ***June 2020***

EXPERIENCE

Software Engineer **- Microsoft, Redmond, WA** ***February 2025 - Present***

- Developed and implemented a new CI/CD pipeline workflow to enhance system versatility and streamline delivery to enterprise customers, including the UK's National Health Service (NHS). Ensured seamless service maintenance with minimal to no migration impact.

Software Development Engineer **- Amazon Inc., Sunnyvale, CA** ***April 2022 - February 2025***

- Developed a full-stack React Native application for Amazon Firestick, integrating CI/CD pipelines for optimized deployment and testing while ensuring a seamless user experience. Designed the system architecture and threat model for an AWS Security Review using Design Inspector, leveraging Amazon S3 buckets, Arcus Server, and Amazon software libraries.
- Developed a custom OpenSearch performance dashboard for the Firestick app, enabling advanced performance monitoring through data visualization. Optimized Unity C# applications for Amazon OEM partners using heaptrack profiling and perfdump, significantly improving responsiveness and processing speed.
- Developed a C++ plugin for Perfetto integration with Unity apps, utilizing C# for seamless embedding within Unity.
- Conducted design and code reviews to ensure software quality and adherence to best practices, enhancing system reliability, test coverage, and maintainability for embedded applications in high-end multimedia systems and luxury automotive platforms.
- Created comprehensive technical documentation for engineers and customers, providing detailed guides to streamline collaboration and project workflows, mentoring and collaborating with cross-functional teams to define product vision, strategies, and develop roadmaps, contributing to the successful execution of complex projects.
- Enabled batch-mode builds for Unity applications using Docker containers in a no-internet environment, streamlining development pipelines and enhancing test coverage and portability through DevOps tools.
- Implemented Amazon internal plugins for OEMs, ensuring successful integration and delivery to partner companies.
- Contributed to Amazon Kindle Scribe 2022 release - e-ink design, with comprehensive testing and meeting quality standards.

PROJECTS

IoT-Enabled Smart Home Automation System - *Raspberry Pi, AWS (IoT Core, Lambda, DynamoDB) MQTT, Python, Node.js*

- Developed a smart home automation system using Raspberry Pi and IoT sensors (temperature, motion, light), integrated with AWS IoT Core for real-time data processing and remote control via a mobile app using MQTT, with AWS Lambda for automation and DynamoDB for data storage, incorporating power consumption monitoring to optimize energy efficiency and reduce overall usage by 75%. Ensured security through device authentication and encryption.

Smart Mirror using Raspberry Pi 3B+ - *Python, OpenCV, Deep Learning, Raspberry Pi 3B+, REST API*

- Developed a smart mirror using CNNs for facial recognition, providing a personalized interface for each family member, and integrating with Google Assistant API for hands-free access to news, weather, calendar, and media, creating an interactive, real-time experience.

A Novel Crop Production Prediction Analysis - *Python, Machine Learning*

- Implemented ML model using SVM, KNN, and Decision Tree to analyze multiple factors that predict crop yield and bring awareness among farmers about the cultivation of the crops with Decision Tree giving an accuracy of 85%.

CERTIFICATIONS

- CCNA Cybersecurity Operations - **CISCO**
- Cybersecurity Essentials - **CISCO**
- Physical Computing with Raspberry Pi and Python **- FutureLearn**

SKILLS

Programming Languages/Courses: Python, C#, C, C++, SQL, Java, JavaScript, TypeScript, Software Architecture, Computer Architecture, Data Structures and Algorithm, Object Oriented Programming, Distributed Systems, Cloud Computing
Web & Mobile Technologies: React.js, React Native, HTML, CSS, Bootstrap, PHP, WordPress, Node.js
Databases/Cloud Services: MySQL, phpMyAdmin, JDBC, AWS (S3, EC2, ECS, ECR), Firebase, Hadoop
Platforms & Frameworks: Docker, Appium, Perfetto, .NET, JSON, REST API, Machine Learning, Deep Learning, Tensorflow, Pytorch, OpenCV, OpenGL, Linux, Git, Github, Android Studio, JIRA, Confluence, Unity, Jenkins, Cisco PacketTracer7.1.1, StarUMLv3.0.2
IoT Hardware/OS: Raspberry Pi 3B+, Raspberry Pi 4B, NodeMCU, Raspbian, Arduino