Sarath Chandra Viswanadh Nagadevara

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PROFESSIONAL EXPERIENCE

Graduate Research Assistant, The University of Texas at Arlington　　　　　　May 2024 – present | United States
Working on developing a real-time system using NVIDIA aerial omniverse digital twin:

- Exploring Aerial Omniverse Digital Twin (AODT), gaining deeper understanding. The goal is to build an enhanced system by leveraging the real-time environment by utilizing all the sophisticated features offered by AODT and run real time simulations. By using this approach, enhanced real-time data and capabilities can be integrated, enhancing the functionality and performance of the system as a whole.
- Furthermore, delving into the accompanying database readings has enabled the study and understanding of crucial parameters that are critical in research and simulation. This technique enabled the identification of essential data linkages and dependencies, resulting in improved system behavior. By understanding database-driven insights, simulation models were updated, predicted accuracy was improved, and new analytics were implemented into the enhanced system.
- The combination of code exploration and database analysis ensures a comprehensive approach to building a reliable, real-time, data-driven digital twin environment.

Associate Member Technical Staff, Model N 🔗　　　　　　　　　　　　　Aug 2022 – Aug 2023 | Hyderabad, India

- Collaborated with a team of 10+ experienced software engineers to understand requirements and design **scalable solutions**. Utilized **React JS, Spring Boot, and Java** to build user interfaces and implement backend functionality, ensuring **100% cross-platform compatibility.** Integrated MySQL to manage databases with **more than 100,000 records**, streamlining the retrieval and storage of data to improve user efficiency.
- Automated builds and deployments by integrating **GitHub** with **Jenkins**, triggering builds that processed **5+ deployments per week**.
- Utilized **Hadoop** as it efficiently processes large datasets, integrating seamlessly with **AWS S3** for storage and retrieval
- Integrated a 3rd party analytics tool with organization's internal APIs used in driving financial decisions for the organization.
- Refactored salesforce API's interactions with Hadoop APIs, ensuring scalability and reusability of code, while ensuring reliable functionality by designing test plans, and leading the team in execution of the test plan.

Student Intern, Cognizant　　　　　　　　　　　　　　　　　　　　　Feb 2022 – Jun 2022 | Hyderabad, India

- Designed and developed interactive microsites, homepage variations, and dynamic content-driven landing pages.
- Implemented form validation, **DOM manipulation**, and front-end logic using **JavaScript**.
- Ensured **cross-browser compatibility** and mobile responsiveness for all projects.
- Integrated third-party **APIs** and analytics tools for tracking user behavior and engagement metrics.

PUBLICATIONS

Design of Progressive Monitoring Overhead Water Tank 🔗

- Developed a smart IoT-based water quality monitoring system using Raspberry Pi, Arduino Uno, and sensors (pH, TDS, turbidity, ultrasonic) to ensure real-time water analysis.
- Designed an automated tank cleaning mechanism to prevent algae and bacterial growth, enhancing water hygiene and reducing manual maintenance.
- Optimized the system's algorithm for low power consumption while enabling remote monitoring and control via a mobile application using IoT integration.
- Developed **automation scripts** to streamline testing, ensuring accurate sensor data collection.

SKILLS

- Programming Languages: **OOP using Java, Python, React JS**
- Scripting: **Linux Shell Scripting**
- APIs: **RESTful**
- Server-Side: **SpringBoot, Node JS**
- NoSQL databases: **MongoDB, Cassandra**
- Deployment: **Jenkins, Github, Docker**
- Software Development: **Data Structures and Algorithms, SQL**
- Data Technology: **Hadoop**, **Spark**
- Methodologies: **Agile, Scrum**

EDUCATION

Masters of Science In Computer Science, The University of Texas at Arlington　　Aug 2023 – May 2025 | Arlington, TX
Course Work: Software Engineering, Cloud Computing and Big Data, Distributed Systems, Design and Analysis of Algorithms, Databases

B.E in Electronics and Communications Engineering,　　　　　　　　　　Aug 2018 – Jun 2022 | Hyderabad, India
Chaitanya Bharathi Institute of Technology

PROJECTS

Fitness Tracker (React JS, Node JS, MariaDB, Github, Docker) 🔗

- Developed a user-friendly fitness web application with **SQL, Node.js, and React libraries** that lets users log their efforts, measure progress, and set personal fitness goals. and obtains all of the daily data, securing thorough activity logs as **graphs and CSV files** on their home computer.
- The application was containerized using **Docker**, guaranteeing a consistent deployment across several environments.
- Designed and implemented automated test **scripts** using **Selenium** to ensure precise data collection and robust validation of edge cases.

OAuth 2.0 Authentication with Client Credentials Grant (Model N)

- Implemented OAuth 2.0 authentication with the Client Credentials grant type, allowing for secure machine-to-machine communication with Access and Refresh Tokens for seamless token renewal.
- OAuth-based authentication has been integrated with the API Gateway and backend services to ensure safe token validation, role-based access control (RBAC), and efficient API security.

CERTIFICATES

- "The Complete Oracle SQL Certification Course" from Udemy. 🔗