SAHITI ADEPU

United States | +1-850-980-4529 | sahitiadepu10@gmail.com

Summary

Software Engineer with 3+ years of experience in designing and building scalable, fault-tolerant distributed systems and cloud-based solutions, with a focus on high-performance and innovative technologies. Proficient in Java(Spring and Hibernate frameworks), Python, C#, JavaScript, SQL, and object-oriented design. Skilled in serverless architectures, distributed storage, and query systems using AWS, creating efficient, cost-effective solutions. Adept at solving complex challenges, optimizing performance using techniques like linear and nonlinear optimization, and working with multi-tiered systems. Strong ability to handle ambiguous problems, articulate technical solutions, and drive innovation in large distributed computing environments.

Professional Experience

Florida State University   **Aug 2024 - May 2025**
Graduate Teaching Associate & Researcher   *Tallahassee, FL*

- Teamed up with the Ion Cyclotron Resonance (ICR) department at National High Magnetic Laboratory to analyze Mass Spectrometry data, leveraging data-driven insights to understand molecular compositions, and support advanced compound identification workflows, working across multi- disciplinary teams to achieve results.
- Engineered interactive Grafana, PowerBI, Tableau dashboards for complex data visualization, improving interpretability for research stakeholders, enhancing data-driven decision-making by 28%. Managed and optimized high-throughput spectrometric datasets using AWS cloud infrastructure, ensuring scalable, fault-tolerant data processing and storage.
- Mentored over 60 students weekly in Data Science and Network Security, delivering hands-on instruction in advanced topics such as Transformers, Large Language Models (LLMs), while reinforcing core statistical analysis through real-world project-based learning.

OpenText Technologies   **Oct 2021 - Jul 2023**
Software Development Engineer   *Hyderabad, India*

- As an SDE, tasked with architecting and implementing use cases, executing software design, and conducting verification through unit and integration testing to ensure high-quality delivery in an Agile environment for the enterprise platform, Intelligent Capture (IC).
- Designed and developed scalable applications using Java, Spring Boot, Hibernate and Akka, integrating RESTful APIs to support key IC modules including Documentum, Standard Export, and SAP.
- Automated testing with SpecFlow plugins, C#, .NET, VBScript, Selenium, achieving 99% code coverage, increasing productivity by 26% and reducing manual efforts, testing time across Agile sprints for IC's high-volume ingestion and extraction pipelines.
- Developed and maintained web forms and reporting interfaces for Intelligent Capture on Windows Server. Integrated .NET, JavaScript, and RESTful APIs to boost system responsiveness and data extraction accuracy.
- Collaborated with QA and validation teams to triage, diagnose, and resolve issues across IC modules, improving release stability and reducing defect resolution time by 15%.
- Led source code management using Git and CI/CD pipeline enhancements using Jenkins, TeamCity, Docker, Kubernetes, and Artifactory, automating Intelligent Capture nightly builds and deployment processes, reducing release cycles by 40%, and ensuring high system reliability.
- Engineered and deployed cloud-native components of Intelligent Capture using Azure, contributing to the delivery of distributed, multi-tiered systems within a Scaled Agile (SAFe) enterprise environment. Streamlined service integration with legacy infrastructure and improved performance monitoring using automated scripts.
- Applied object-oriented design principles with Java, C++ and Python to enhance distributed services that are scalable, fault-tolerant, and capable of processing large, complex datasets.

OpenText Technologies   **Sep 2021 - Oct 2021**
Software Engineer Intern   *Hyderabad, India*

- Constructed an interactive media management platform with React.js, TypeScript, Redux, increasing application efficiency by 50%.
- Optimized API performance using GraphQL and RESTful services, reducing data latency by 35% and reinforcing secure, maintainable code development.
- Remediated legacy code for quality & security compliance, automating monitoring tasks, improving system uptime by 18%.
- Participated in all stages of feature development from estimation, design, coding, testing, and debugging to delivering scalable, reliable modules with strong cross-functional collaboration.

EPAM Systems   **Sep 2020 - Jun 2021**
Software Engineer Trainee   *Remote*

- Designed and implemented data pipelines and analytical tools using software engineering principles, ensuring efficient data processing and seamless integration with AWS services such as S3 and EC2. Built distributed storage and query systems that are low cost, scalable, and easy to manage.
- Enhanced data storage and processing capabilities by leveraging AWS cloud computing solutions, improving system performance through scalable and reliable data management, and optimizing resources using cost-effective strategies.
- Worked in an agile environment to continuously deliver high-quality software, refining systems to handle complex, broadly defined problems with a focus on optimization and fault tolerance.

- Utilized programming languages such as Python and R, with proficiency in object-oriented design, to develop innovative technologies that drive fundamental changes in data processing and analytics at scale.

Keshav Memorial Institute of Technology   **Jul 2019 - Aug 2020**
Research Assistant   *Hyderabad, India*
- Developed a real-time construction site safety monitoring system using GLM Lasso Regression and Mixed Effects Random Forest (MERF) models in R, analyzing diverse worker and environmental variables on distributed systems to improve hazard detection accuracy by 18%.
- Conducted research on deep learning optimization techniques, evaluating performance of stochastic gradient-based optimizers and contributing to the design of scalable model evaluation frameworks for industrial safety and intelligent monitoring applications.

Research & Academic Projects

Construction Site Accident Avoidance System
- Created a robust unsafe activity detection system using deep learning techniques like MediaPipe, ResNet50V2, MobileNetV2, and a custom CNN architecture, leveraging TensorFlow and Keras libraries for efficient model training and evaluation.
- Crafted a user-friendly graphical interface with Tkinter, facilitating seamless user interaction, featuring image upload for batch worker activity classification and real-time webcam analysis for dynamic safety monitoring.
- Demonstrated exceptional problem-solving skills by integrating computer vision algorithms with GUI development, showcasing proficiency in both backend model implementation and frontend application design.
- Deployed trained model on AWS EC2 instances, ensuring scalable and reliable access to the Construction Site Safety Monitoring Tool, reflecting expertise in cloud computing and application deployment.

Hospital Inventory Management System Using MERN Stack
- Architected a scalable Hospital Inventory Management System with a responsive web interface using HTML, Bootstrap, and dynamic frontend features powered by React.js.
- Engineered the backend infrastructure using Node.js and Express.js, integrating MongoDB for efficient NoSQL data modeling, real-time stock tracking, and inventory lifecycle management.
- Performed API validation and scenario-based testing using Postman, ensuring reliable RESTful interactions for critical workflows such as inventory addition, consumption tracking, and threshold alerts.
- Secured patient-related and inventory data by implementing JWT-based authentication and role-based access control.

AI Mental Wellbeing Agent
- Built a personalized mental health guidance app using AG2's SwarmAgent framework, coordinating Assessment, Action, and Follow-up agents for real-time support and care planning.
- Developed an interactive Streamlit interface with secure OpenAI API integration, enabling users to input stress, symptoms, and life events to receive tailored recommendations.
- Implemented dynamic multi-agent workflows with initiate_swarm_chat, AFTER_WORK, and Update_System_Msg, generating adaptive mental wellbeing strategies with empathetic AI responses.

Food Recipe Recommendation System
- Built a personalized recipe recommendation system leveraging Natural Language Processing (NLP) and machine learning models for text similarity and preference prediction.
- Served a dynamic web application through Flask backend, hosting a database of over 4,000 recipes, and optimized user interactions via responsive front-end designs.

Technical Skills

- **Programming Languages**: Python, Java, C++, C#, TypeScript, JavaScript, SQL, R, REST Assured, PHP, JSON,
- **Development Environments**: VSCode, Swift UI, GIT, Azure, AWS, Tableau, PowerBI, TeamCity, Docker, Kubernetes, Maven
- **Web Technologies**: HTML, CSS, Bootstrap, Express JS, Angular JS, React JS, Servlets, Flask, Node.js
- **Databases**: MYSQL, RDBMS - Oracle, PostgreSQL, MongoDB, IBM DB2
- **Cloud Platforms**: Hadoop, Apache Kafka, PySpark, Amazon Web Services(EC2,S3,RDS,Sagemaker)
- **Agile & Project Management**: Scrum, Kanban, JIRA, Extreme Programming (XP), Confluence
- **Tools and Libraries**: Junit, TestNG, Selenium, NUnit, Open CV, Tensorflow, Keras, Tkinter, Excel, Matplotlib, Numpy, Pandas

Education

Florida State University   **Aug 2023 - May 2025**
Master of Science, Computer Science   *CGPA: 3.98*
Jawaharlal Nehru Technological University   **Jul 2018 - Jul 2022**
Bachelor of Technology, Computer Science   *CGPA: 3.75*

Leadership & Achievements

- **Research Publications**: "Construction Site Accident Avoidance System"; "Optimizers in Deep Learning: A Comparative Study and Analysis"; "Driver Safety Prediction System", "Cardiovascular Disease Prediction using Genetic Algorithm"
- **Awards**: OpenText Navigator 2022 & 2023 - Recognized as a OpenText Navigator twice, for exceptional cross-functional collaboration, root cause analysis and efforts during the successful release cycles of Intelligent Capture (IC) 22.x versions.