Sai Deepthi Jammula

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EDUCATION

Master of Science in Computer Science Expected: December 2024
Purdue University Northwest – Hammond, IN
Focused Studies: Algorithms, Operation systems, Programming languages and interpreters, Artificial Intelligence, Deep Learning, Software Design.

Bachelors in Electronics and Communication Engineering June 2021
Malla Reddy College of Engineering and Technology, Hyderabad, India
Coursework: Python, Data Structures, Database Systems, C, C++, Java

EXPERIENCE

Lab Assistant August 2023 to Present
PNW Department of Technology – Hammond, IN

- Advised over 50 students with hands-on lab exercises related to software design, focusing on key concepts like object-oriented programming, software architecture, and design patterns, improving project success rate by 30%.
- Improved the development of a web application project, providing guidance on design, coding, and debugging using HTML, CSS, JavaScript, and C# for backend functionality, resulting in 100% project completion with positive feedback from students.
- Integrated QuickBooks with the web application using C#, enabling seamless financial data management, and reducing accounting-related bugs by 25% within student projects.
- Evaluated student projects and provided detailed feedback on code quality, functionality, and adherence to software design principles, helping improve student project grades by 10% on average.

Systems Engineer June 2021 to December 2022
Tata Consultancy Services – Hyderabad, India

- Spearheaded the development and enhancement of ToscaO microservice using Python and Java, integrated into the Kubernetes and Docker environments to ensure high availability, scalability, and low latency performance of applications.
- Designed and implemented automated solutions to streamline deployment processes using Jenkins and Maven, reducing deployment times by 20% and improving operational stability by 15%.
- Collaborated with cross-functional teams in an Agile development environment to design and optimize PostgreSQL database operations, creating robust indexing and query systems for high-efficiency data retrieval and scalability. Achieved a 25% performance improvement through custom queries, indexing, and tuning.
- Executed application deployments and updates in Linux-based systems, facilitating the flawless operation of over 15 interconnected microservices while minimizing installation errors through rigorous monitoring practices.
- Implemented GitFlow branching strategy for robust version control and continuous integration, leading to improved code quality and easier management of feature, release, and hotfix branches.

PROJECTS

Efficient Path Finding and Visualization: Fall 2023
CS 51510 Algorithm

- Applied Prim's MST and Dijkstra's shortest path algorithms for efficient US city map navigation, optimizing route calculations and reducing processing time by 25%.
- Developed a comprehensive GUI for visualizing algorithm outputs, which improved data accessibility and clarity, resulting in a 30% boost in the team's ability to generate actionable insights.
- Completed integration and testing phases, ensuring 100% accuracy in algorithm outputs and map visualizations.

Road Crack detection Spring 2023
CS 52550 Deep Learning

- Created a predictive anomaly detection model with VGG16, RPN, and ROI pooling, achieving 90% accuracy in identifying road cracks.
- Implemented predictive models to detect anomalies, leveraging PyTorch and GPU acceleration to enhance model scalability and computational efficiency. Processed and labelled over 1,000 road images to build a comprehensive dataset, reducing training time by 50% with GPU optimization.

Neo4j CRUD Rest API: Spring 2023
CS 52520 Software Design

- Developed 4 CRUD APIs using Node.js and Express.js to manage student data in a Neo4j graph database.
- Created and tested 8 automated Postman tests, achieving a 100% pass rate.
- Visualized data relationships in Neo4j's graph database with 100+ student nodes.

TECHNICAL SKILLS

- **Languages:** Python, C++, C, Java, Golang, MATLAB, SQL, C#.
- **Web Technologies:** HTML, CSS, React, Node.js, JavaScript.
- **Operating Systems:** Linux, Windows.
- **Database:** MySQL, PostgreSQL, Neo4j.
- **Tools & frameworks:** Jira, Git, Postman, REST API, Jenkins, Junit, Pytest, Maven, Docker, Kubernetes, Agile, Azure ML.
- **Software & IDEs:** VS Code, Eclipse IDE, Bitbucket, Google Colab, TensorFlow, PyTorch.

ACHIEVEMENTS & CERTIFICATIONS

- Getting Started with DevOps on AWS - Amazon Web Services. Spring 2023
- On the Spot Award: Awarded for improving system efficiency by 20% and resolving critical issues. March 2022
- Star of the Month: Received for accelerating project delivery and achieving a 95% client satisfaction rate. June 2022