Siva Satyanarayana Raju Pusapati

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I am passionate about software development and fascinated by the possibilities of AI, I am a developer with a Master's in Computer Science. My expertise lies in Java-based application development, Machine Learning, and Cloud Technologies. I have a thirst for learning new technologies and am enthusiastic about exploring the frontiers of AI. Notably, I was honored with the Best Student Prize for my innovative contribution to the Bring Down Counterfeiting Challenge 2023.

Skills

Programming	Python, Java, C, C++, Git, SQL, LaTeX
Web Technologies	J2EE, HTML, CSS, JavaScript, Angular, Spring
Cloud	AWS, Azure, GCP
Build Tools	Maven, Gradle, Jenkins, Terraform, Docker
Database	Firebase, Oracle, PostgreSql
Other	Github, Wireshark, Eclipse, vscode, Visio, Selenium, Intelij

Work Experience

Systems Engineer **May 2019 - Dec 2021**

Tata Consultancy Services(TCS) - British Telecom(BT) *Pune - India*

- Developed and maintained critical Java-based applications, using Angular and Spring.Integrated JAVA EE technology, specifically Spring with Hibernate for the persistence layer, mapping to tables in PostgreSql.
- Leveraged Python scripting for automated network monitoring, reducing downtime by 15% through early identification and resolution of network disruptions, including TCP/IP and DNS issues.
- Designed and developed web-based user interfaces for internal tools and client-facing applications using HTML, CSS, and JavaScript. This resulted in a 25% increase in user engagement.
- Utilized Amazon Web Services (AWS) for deploying and scaling applications, resulting in improved scalability and cost-efficiency. Achieved a 30% reduction in infrastructure costs.
- Implemented Docker containers for application deployment, streamlining the deployment process and reducing server overhead. This led to a 40% decrease in deployment time and increased resource utilization.
- Managed infrastructure using Terraform, automating provisioning and configuration. This approach reduced provisioning time by 50% and improved infrastructure consistency.
- Implemented a robust CI/CD pipeline using Jenkins and Git, enabling automated testing, integration, and deployment of code changes. This streamlined the development process, resulting in a 50% reduction in manual intervention, improved code quality, and faster feature delivery.
- Utilized Git for version control, ensuring a collaborative and organized approach to code management. This implementation enhanced team collaboration, code traceability, and facilitated efficient code reviews.
- Collaborated with cross-functional teams to provide technical support for IPtrade, resulting in a 30% reduction in average resolution time for software-related client issues, significantly increasing client satisfaction.

- Spearheaded process improvements in issue management, reducing the average issue resolution time by 25% and increasing client satisfaction ratings by 20%.
- Introduced to using Wireshark for analyzing RTP streams to help identify issues in IPTrade recordings. Learning to detect common audio quality and network problems to assist with troubleshooting.
- Managed multiple projects concurrently, delivering 98% of them on time and within budget, demonstrating effective project management skills.
- Conducted bi-weekly knowledge sharing sessions for the team, resulting in a 15% increase in team efficiency and knowledge retention.

Technology Stack: *Java, Python, TCP/IP, RTP, DNS, HTML, CSS, JavaScript, Amazon Web Services (AWS), Docker, Terraform, Jenkins, Angular, Spring Git, Wireshark*

Academic Projects

Implementation Of A Image Classification Model On A Android Application

- Developed an Android application that integrates advanced machine learning techniques for efficient grocery shopping.
- Leveraged TensorFlow Lite to perform on-device image classification, ensuring real-time processing and eliminating the need for server-side computations.
- Utilized Firebase for seamless data management, including user authentication and cloud storage functionalities, enhancing user convenience.
- Integrated CameraX library to provide users with a smooth and intuitive image capture experience, enabling accurate item identification and enhancing the overall user experience during grocery shopping.
- Utilized the Fruit 360 dataset with over 90,000 high-quality images of 131 different types of fruits and vegetables, ensuring a rich dataset for image recognition.
- Utilized Firebase Realtime Database for secure and synchronized storage of the shopping cart, ensuring efficient item handling and retrieval.
- Outlined the step-by-step flow of the application, from launch to cart management, ensuring a smooth user experience.
- Identified possibilities for future improvements, including expanding the range of recognizable items, refining the user interface, and integration with online grocery shopping services.

Technology Stack: *Python, Teensorflow lite, Keras, Firebase, CameraX, Android Studio, Git, GCP*

Comparing LSTM, RNN, DRCNN, ResNet, and GRU Models for Traffic Prediction on the METR-LA Dataset

- Conducted a comprehensive comparative analysis of deep learning models, including LSTM, DRCNN, GRU, ResNet, and RNN, for traffic flow prediction, allowing for a thorough assessment of each model's strengths and weaknesses.
- Utilized multiple performance metrics, including Mean Absolute Error (MAE), R-squared (r-square), and Root Mean Square Error (RMSE), to quantify the models' predictive accuracy. This approach provided a well-rounded evaluation of their performance under different evaluation criteria.
- Investigated and compared the models' performance over various time horizons, allowing for analysis of traffic predictions across different time scales and providing insights into their suitability for short-term and long-term traffic forecasting.
- Preprocessed the METR-LA dataset to create input-output pairs suitable for training and testing sets. This crucial data preprocessing step involved cleaning and structuring the dataset to ensure effective use for model training and evaluation.
- Demonstrated proficiency in using deep learning frameworks, specifically Keras, for implementing the LSTM model.

Technology Stack: *Python, AWS, Keras, Pytorch, NumPy, Pandas, Git, Vscode, Colab*

Full Stack Web Application For Collecting User Feedback

- Developed a web apllication that allow user to submit a feedback on a specific product.
- Leveraged AngularJS to design and implement an intuitive user interface for the web pages, enhancing user engagement and interaction.
- Implemented the backend infrastructure and business logic of the application using the Spring framework, enabling efficient data processing and management.
- Employed PostgreSQL as the database management system to securely store and manage user feedback data, ensuring reliability and scalability.
- Utilized Postman for comprehensive testing of communication between the client-side interface and the server-side components, ensuring robust and error-free data transmission.
- Implemented Create, Read, Update, and Delete (CRUD) operations using JPA (Java Persistence API) within the Spring framework, enabling seamless data manipulation.
- Deployed the web application on an AWS EC2 instance, ensuring high availability, scalability, and accessibility over the internet.
- Implemented build automation using Maven, streamlining the build process of the Java application and enhancing development efficiency.

Technology Stack: *AngularJS, Java, Spring Framework, Intelij, PostgreSql, JPA, Postman, Maven, Vscode, AWS, HTML, Git, CSS, Angular CLI*

Safe URL Inspector

- Developed Safe url inspector, a solution specializing in extracting URLs from input messages or emails to identify potential threats comprehensively.
- Leveraged Selenium to conduct real-time analysis of redirected URLs, ensuring proactive identification of evolving counterfeit tactics.
- Implemented a robust Random Forest machine learning model to classify URLs with high accuracy, enhancing the solution's capability to combat fake URLs in the commerce stream.
- EIntroduced a second layer of authentication through SSL certificates, going beyond conventional methods to enhance the reliability of URL classification and differentiate between legitimate and fake URLs effectively.
- Integrated Tableau analytics to provide stakeholders with valuable insights through visual representations of key statistics related to phishing URLs. This data empowers decision-makers with a clearer understanding of the counterfeiting landscape and aids in strategic decision-making.

Technology Stack: *Python, Node.js, Selenium, SSL, Git, Vscode, Intelij, AWS, Random Forest, Tableau*

Education

Masters in Computer Science **Jan 2022 - Dec 2023**
George Mason university

Main courses: Component-Based Software Development, Wireless and Mobile Computing, Mining and Learning from Time Series data, Software Engineering for the World Wide Web

Bachelors in Computer Science And Engineering **Jun 2015 - Apr 2019**
GITAM university

Main courses: Database, Computer Networks, Data Structures, C Programming, Cloud Computing, Object Oriented Programming, Software engineering