Pothamsetti Sai Srujan Reddy

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Summary

Aspiring Software Engineer with a passion for full-stack development, Cloud Computing, and Machine Learning. Experienced in building scalable applications, Big data processing, and secure web systems. Looking to contribute to a dynamic tech team.

Education

Amrita Vishwa Vidyapeetham   **2022 – Present**
*Bachelor of Technology in Computer Science and Engineering (**CGPA: 7.65**)*   *Bengaluru, Karnataka*

Aditya Junior College   **2020 – 2022**
*MPC, Class XII, CBSE, Aggregate: **81%***   *Kakinada, Andhra Pradesh*

Aditya IIT Talent School   **2020**
*Class X, AP State Board, Aggregate: **89%***   *Kakinada, Andhra Pradesh*

 Relevant Coursework: Data Structures and Algorithms, Operating Systems, Database Management, Cloud Computing, Machine Learning, Big Data Analytics, Time Series Analysis.

Experience

ARV Digital Technologies LLP   **Aug 2024 – Oct 2024**
SDE Intern   *Bengaluru, Karnataka*

- Processed large datasets from platforms like Amazon and Flipkart, refining product information across categories.
- Created D3.js-based data visualizations to deliver actionable insights to stakeholders.
- Published datasets to Postman collections, improving workflow integration and accessibility.
- Assisted in developing and testing the the Gizsafe admin dashboard and the apk, also enabling invoice generation and management, with robust Postman API testing.

InnoDatatics Inc.   **Dec 2024 – Feb 2025**
FullStack Developer Intern   *Hyderabad, Telangana*

- Developed a real-time vehicle monitoring system (InnoAIParking) using YOLOv8, PaddleOCR, React, Next.js, and AWS RDS for seamless object detection and license plate recognition.
- Implemented user authentication, role-based dashboards, and dynamic components for seamless user interactions across multiple modules.
- Designed comprehensive admin features for tenant, building, and vehicle management, along with advanced reporting and live-feed monitoring integration.
- Optimized database performance using indexing and caching, reducing query execution time by 40%.
- Deployed services on AWS EC2 and managed secure data transfers using AWS RDS and S3.

Projects

Twitter Sentiment Analysis | *Django, PySpark, MongoDB*   **December 2024**

- Developed a scalable Twitter sentiment analysis system using PySpark for efficient data processing and MongoDB for structured data storage.
- Built a Django-based web interface to visualize sentiment trends and provide real-time insights on Twitter data.
- Implemented sentiment classification techniques to analyze tweet polarity, enabling businesses and users to gauge public opinion effectively.

Vivalyse – Viva Confidence and Clarity Analysis | *Python, NLP, ML, MFCC*   **November 2024**

- Tech Stack: Python, NLP (TF-IDF, BART, T5, GloVe), ML (Random Forest, MLP, K-means, Adaboost), MFCC, Stacking Models
- Developed an ML model to quantify student confidence and clarity in viva speeches using NLP and audio processing techniques.
- Extracted key speech features (MFCC, LPC) to analyze tone, pace, and word choice for assessment accuracy.
- Implemented a stacking model (Random Forest, MLP, KNN), achieving 92.8% F1-score for confidence and 91.4% for clarity classification.
- Designed a bias-reduction system for fair assessments, with applications in education, HR, and AI-driven hiring.

EthicaAI – Smart Financial Management Tool | *Next.js, React.js, Drizzle ORM, Clerk, AI, FinTech* **Accenture challenge 2024**

- Developed an AI-powered financial management platform enabling users to track income, expenses, and budgets in real time.
- Integrated **AI-driven financial analytics** for **spending optimization**, budget predictions.
- Implemented **secure authentication (Clerk) and structured financial data management** using Drizzle ORM.

OpenCVE | *React, Node.js, Express, Passport.js, MongoDB*   **June 2024**

- Developed a CVE management system using React for the front end and Node.js/Express for the back end, enabling users to efficiently view, add, edit, and delete CVE records.
- Implemented secure authentication using Passport.js with OAuth, ensuring secure access to the system.

- Integrated MongoDB for storage, allowing scalable and flexible management of CVE records.
- Added CSV import functionality to facilitate batch processing of CVE records, streamlining the management process.

PhysXForge (Java Based Physics Simulator) | *Java, Java swing* **December 2023**
- Developed a 2D physics simulation application that visualizes the movement of spheres influenced by gravity, drag force, and gravitational interactions between spheres.
- Designed and implemented a user-friendly GUI with Java Swing, enabling easy interaction with simulation features and parameters such as gravity, drag coefficients, and sphere placement.
- Incorporated collision detection algorithm to accurately simulate interactions between spheres, surfaces, and stationary objects.

Technical Skills

Programming: C++, SQL, Java (Basic), Java Swing (Basic), Python, Data Structures & Algorithms, Object-Oriented Programming
Web Development: HTML, CSS, JavaScript, ReactJS, Next.js, Node.js (Basic)
Databases: MySQL, PostgreSQL, MongoDB
Cloud & DevOps: Docker, Git, GitHub, AWS (EC2, RDS, Lambda)
Software Engineering: Agile, CI/CD, Application Resiliency, API Development
Big Data & Security: PySpark, Data Warehousing, Cybersecurity
Machine Learning & AI: Scikit-learn, TensorFlow, NLP (TF-IDF, GloVe, BART), Stacking Models, Sentiment Analysis
Speech Processing & Audio Analytics:: MFCC, NLP-based Clarity Classification, Confidence Estimation
Financial & Data Analytics:: Big Data Processing, Predictive Analytics, AI-driven Customer Sentiment Analysis

Positions of Responsibilities

Team Lead, bi0sblr CTF Team: Leading Web domain one of India's top 5 CTF teams in competitive cybersecurity.
Organizer, bi0s Meetups: Organized monthly meetups to foster community and knowledge exchange.

Achievements

- Our Team Europa placed as Semi-finalist in spUN International Debates 2023 organized by National Space Society, USA.
- Secured 3rd place in ShunyaCTF 24 Finale among 30 teams quailfied from 225 CTF teams worlwide, hosted by MIT-ADT Pune.
- Secured 10th in Vishwa CTF 24 among 225 individuals worlwide.
- Secured 20th in Questc0n CTF 24 among 500 teams worlwide.
- Secured 18th in SpookyCTF 24 among 500 teams worlwide.
- One of the Finalists of Weird Chess 2.0 conducted by Shastra 2024, IIT Madras.
- Authored Challenges for Africc CTF 24 regional qualifiers for International Cybersecurity Championship (ICC3) 2024.

Co-curricular

Microsoft Ignite Students Club **Feb 2024 – Present**
Treasurer *Bengaluru, Karnataka*
- Organized the "Prison and Artistry CTF 24," a Capture The Flag (CTF) event where participants interacted with an AI chatbot to craft specific prompts to retrieve flags from the chatbot, testing their skills in prompt engineering and AI interaction.

Publications & Research

Intrusion Detection System for Network Security Using Machine Learning **ADRIS 2025**

- Developed a machine learning-based Intrusion Detection System (IDS) using the NSL-KDD dataset.Utilized Logistic Regression, Random Forest, XGBoost, and CNN for classification.
- Achieved high accuracy in detecting network attacks with XGBoost (99.84% Accuracy, 99.85% F1-score), Random Forest (99.86% Accuracy, 99.87% F1-score), and CNN (98.26% Test Accuracy).
- Proposed an optimized IDS model for real-time threat detection.

Advanced Adaptive Traffic Management System for Urban Environments **IDCIOT 2025**

- Designed an AI-powered traffic management system using IoT, Arduino, and Machine Learning for real-time traffic optimization.
- Validated improvements using simulation, achieving: 30.71% increase in overall traffic efficiency and 50% reduction in emergency response time.
- Scalable, adaptive system for smart city integration.

Certifications

Google Cloud Computing Foundations **2023**
Data, ML, and AI in Google Cloud *Google Cloud Skills Boost*
CCNA (M1, M2, M3) **2024**
Instructor Lead Training *Cisco Networking Academy*