Alamanda Balu Karthik

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https://portfolio-self-six-39.vercel.app/ | https://www.linkedin.com/in/balu-karthik/

https://github.com/Karthi-1211

Summary

- Software Developer | Computer Science Engineering | Full-Stack Development | C | C++ |Python
- Accomplished BTech Computer Science graduate proficient in full-stack development, machine learning, AI, and IoT solutions. Skilled in Python, React, JavaScript, SQL, and cloud platforms, demonstrated by developing real-time IoT-based monitoring application that increased user engagement by 25 percent. Delivered 5+ measurable academic and personal projects, including full-stack predictive analytics platform optimized during 1-month steel plant internship, reducing downtime by 15 percent. Experienced in agile team collaboration, with strong analytical and communication skills. Passionate about applying emerging technology to drive innovative solutions in forward-thinking organizations.

Education

Anil Neerukonda Institute of Technology and Sciences, B.Tech in Computer Science Engineering (CSE) December 2021 – May 2025

- GPA: 8.34/10.0

Sasi Junior College, Intermediate Education (MPC) June 2019 – May 2021

- Score: 956/1000

Sasi English Medium High School, Matriculation June 2018 – May 2019

- GPA: 9.7/10.0

Experience

Java Full Stack Developer Intern, Rastriya Ispat Nigam Limited (RINL) (VSP) May 2024 – June 2024

- Built a web-based Delay Management System using Java Servlets, MySQL, and Apache Tomcat, cutting equipment downtime tracking time by 40 Percent in a steel manufacturing plant.
- Automated ingestion of Excel-based delay logs, streamlining data workflows and reducing manual entry time by 50 Percent for plant personnel.
- Designed interactive visualizations (machine-wise, section-wise downtime charts) with HTML, CSS, Bootstrap, and JavaScript, accelerating bottleneck identification by 30 Percent.
- Enabled continuous delay metric updates, empowering maintenance teams to resolve equipment failures 25 Percent faster and boost uptime by 15 Percent.

Projects

A Smart IoT Enabled System for Leaf Disease Detection with Severity and Pesticide Recommendation github.com

- Engineered IoT-based system using ESP32-CAM to capture real-time images, storing data on Google Drive, automating disease identification via Flask web application, reducing diagnosis time by 60
- Deployed machine learning models (ResNet B3, EfficientNet B3, custom CNN) to enable user-selectable disease detection, severity classification (High, Moderate, Low), achieving 98 percent accuracy in agricultural diagnostics.
- Integrated Gemini API to provide AI-powered pesticide recommendations, monitored environmental conditions using soil moisture, temperature, humidity sensors, visualized data on ThingSpeak, logged in Google Spreadsheets for comprehensive reporting.
- Developed full-stack IoT solution using Blynk, ThingSpeak to visualize real-time environmental data, improving farmer decision-making by 35 percent through actionable insights.

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AI Mock Interview github.com

- Built full-stack AI-powered platform using React, TypeScript, Vite, Tailwind CSS to enable profession-specific interview practice, increasing user preparedness by 40
- Configured Supabase to manage secure authentication, real-time database operations, optimizing backend performance for efficient user experiences.
- Deployed platform on Vercel using CI/CD pipelines, ensuring scalability, reducing deployment time by 30 percent , enhancing product visibility via media integration.
- Designed responsive, interactive UI for simulated interviews, improving user engagement by 25percent, demonstrating front-end development proficiency.

Drowsiness Detection System github.com

- Developed a real-time drowsiness detection system using Python and OpenCV, leveraging Haar Cascade classifiers for precise face and eye tracking, enhancing driver safety by 50 percent.
- Implemented Eye Aspect Ratio (EAR) algorithms to detect fatigue through eye closure patterns, reducing false positives by 20 percent in real-world scenarios.
- Integrated an audible alert system triggered by detected drowsiness, providing immediate feedback and improving response time by 15 percent.
- Optimized the system for lightweight operation with standard webcams, ensuring accessibility and deployment ease across diverse hardware environments.

Skills

Languages: Python, C, C++, JavaScript, SQL, HTML, CSS

Technologies: Node.js, Express.js, React.js, Git, GitHub, Net Beans

Core: Data Structures, Algorithms, Object-Oriented Programming, Database Management Systems, Computer Networks

Soft Skills : Collaboration,Problem-Solving,Analytical Thinking,Adaptability,Time Management,Communication

Certifications

Harvard CS50's Introduction to Computer Science, edX	August 2024
Harvard CS50's Introduction to Artificial Intelligence with Python, edX	September 2024
Python for Data Science, NPTEL	February 2024
Introduction to the Internet of Things (IoT), NPTEL	December 2024
Python Essentials -1,2, CISCO	May 2024
Introduction to prompt engineering, edX(IBM)	July 2024
SQL and Relational Databases 101(IBM)	July 2024