Akhil shibu

Software Developer AI, Web, and Data Systems
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Linkedin | **GitHub**

Education

Atria Institute of Technology — Bangalore, India
Bachelor of Engineering (B.E.) Artificial Intelligence and Machine Learning — August 2023 - July 2027
CGPA: 8.57

St. Joseph's Pre-University College — Bangalore, India
Pre-University Education (PCMC) — June 2021 - July 2023
Percentage: 85.5%

St Marys Public School — Bangalore, India
Degree in ICSE Primary and Secondary Education — January 2008 - March 2021
Percentage: 89.89%

Experience

Code Club | Software Developer — Bangalore, India | December 2024 - Present

Contributed as a full-stack engineer to AI Murder Mystery, an interactive, AI-powered video game showcased during a collegiate technocultural fest. Engineered the platform using React, FastAPI, and Vertex AI, enabling intelligent hint generation and scene-based user progression. Designed a multimedia interface blending video analysis with real-time user interaction and decision tracking. Handled both system logic and UI architecture, ensuring smooth deployment and reliable performance for 100+ participants. Employed modular design, asynchronous endpoints, and efficient state handling to support scalability and responsive gameplay.

Skills

Programming Languages:	C++, Java, Python, HTML, CSS, JavaScript, PHP
Libraries/Frameworks:	React, Flask, FastApi, PyTorch, YOLOv5, OpenCV
Tools / Platforms:	Git, VS Code, Jupyter Notebook, Google Colab, Power BI, Tableau
Databases:	SQL, MongoDB

Projects / Open-Source

Sustainable Fertilizer Optimizer using Integrated GIS and Machine Learning *Firebase, Python, JSON, Flask, HTML, Pandas, QGIS, Tensor Flow*

Developed a GIS-integrated fertilizer recommendation system using Flask and machine learning, allowing users to input GPS data for precision mapping. Processed real-time soil metrics (pH, K, Ca, Mg, S, Fe, Mn, Zn, Cu) and weather data via GIS APIs to generate crop-specific fertilizer plans. Built an interactive UI for inputting soil and crop data, with dynamic map visualizations and analytical reports to support data-driven farming and boost yield efficiency. Ensured scalable architecture and efficient backend processing for real-time insights in diverse agricultural environments.

Real-Time Dumper Load Monitoring System (RTDLS) *Embedded C, nrf24l01, RFID, Arduino Uno, Weighing Load Cell Sensor YZC-131, HX711*

Built a real-time load monitoring system for mining using RFID and weight sensors for accurate tracking. Leveraged LoRaWAN for long-range communication in remote sites and developed a color-coded dashboard for live load status. Integrated cloud storage for performance analytics and streamlined operations through a unified interface, reducing idle time, fuel use, and safety risks. The system achieved an accuracy of over 95% in load detection during field testing. Designed for scalability and harsh industrial environments, ensuring reliable performance under variable conditions. Incorporated IoT-enabled edge processing to deliver real-time insights with minimal network dependency

AI-Driven Interactive Murder Mystery Competition *React, FastAPI, Vertex AI, HTML, CSS, JS*

Designed and deployed a video-based interactive murder mystery game using React, FastAPI, and Vertex AI for real-time AI-driven hints. Built a multimedia interface with scene-based video clues, dynamic UI, and user feedback. Optimized performance for low latency and high engagement, hosting 100+ participants during a tech fest with seamless full-stack integration and immersive storytelling. Ensured scalable architecture and smooth deployment to handle concurrent users without performance issues.

BikeLink *HTML, CSS, PHP, JS, MYSQL, GIT*

BikeLink is a responsive web platform built for bike enthusiasts, focused on delivering an engaging and visually appealing user experience. Implemented smooth scrolling, interactive hover effects, and media queries to ensure seamless functionality across devices and screen sizes. Optimized page structure, applied performance best practices, and ensured full cross-browser compatibility to improve load times and enhance overall UI/UX.

Object Scope: Video Stream Object Detection *Yolov5, Flask, MediaPipe*

Built a real-time object detection web app using Flask, YOLOv5, and PyTorch, with OpenCV for frame-wise processing and dynamic bounding boxes. Integrated a responsive HTML/CSS/JavaScript frontend with support for video streaming and file uploads. Ensured smooth, low-latency detection in-browser, and optimized memory usage for consistent performance across devices.

Certifications

- Deloitte Data Analytics Job Simulation (Virtual Internship) - **Deloitte Australia , Forage**
- Deloitte Technology Job Simulation (Virtual Internship) - **Deloitte Australia , Forage**
- Microsoft Getting Started with AI Agents in GitHub Copilot - **Microsoft , edX**
- Microsoft Use AI for Everyday Tasks - **Microsoft , edX**
- Introduction to Generative AI - **Google**
- Introduction to Large Language Models - **Google**
- Introduction to Responsible AI - **Google**
- Prompt Design in Vertex AI - **Google**
- Responsible AI: Applying AI Principles with Google Cloud - **Google**
- Level 3 Gen AI: Prompt Engineering - **Google**

Honors & Awards

- Hackathon Achievements : Finalist in a competitive intercollegiate hackathon hosted at Atria Institute of Technology, where I collaborated in a fast-paced team environment to design and develop an innovative tech solution. The event was sponsored by Oracle, offering an opportunity to gain industry exposure.
- Smart India Hackathon (SIH) :Selected by the college as one of the top-performing teams for the National Level Smart India Hackathon (SIH), recognizing strong innovation, problem-solving, and technical abilities. The proposed solution tackled real-world agricultural challenges .
- Event Organizer : Organized and led an AI-powered Murder Mystery game as part of the college fest, aimed at enhancing interactive learning and team-based problem-solving. Designed a video-driven, clue-based gameplay experience using React, Flask, and Vertex AI to provide assistance.