DINESH KUMAR E

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Professional Summary

Final-year Computer Science Engineering student focusing on Artificial Intelligence and Machine Learning, with solid knowledge in software development, data structures, and system design. Skilled in creating reliable systems, working with various technologies, and building backend applications. Committed to solving practical problems through clean code and thoughtful design.

Technical Skills

Languages: Python, C, C++, JavaScript, HTML, CSS, SQL
Web Development & Frameworks: React, FastAPI, Flask, Bootstrap
Software Development: Object-Oriented Programming, REST APIs, Git, Linux
Databases: MongoDB, MySQL, SQLite
Tools & Platforms: GitHub, Postman, Power BI, Excel, JIRA
Networking & DevOps: Load Balancing, Firewall, CI/CD (GitHub Actions), Docker, Nginx
Machine Learning: TensorFlow, PyTorch, Large Language Models (LLMs)

Education

Bachelor of Engineering in Computer Science Engineering with AI and ML 2022 – Present
Sri Sairam Engineering College, Chennai CGPA: 8.78/10.0

Higher Secondary Certificate 2022
Sri Sankara Vidyalaya Percentage: 86.6%

Experience

Genik Technologies Pvt. Ltd – Intern Aug 2024 – Nov 2024

- Developed a FastAPI-based microservice on an Oracle VPS to efficiently handle over 1000 concurrent requests.
- Improved response times by up to 40% through implementation of persistent disk caching mechanisms.
- Enforced strict rate limiting policies to maintain 99.9% service uptime and prevent system misuse or overload.

Projects

WebRTC Based Video Call Intercom System with Sign Language Detection SIH 2024 Winner

- ***Tech Stack:*** *WebRTC, JavaScript, Python, FastAPI, WebSockets, PyTorch, Redis*
- Implemented device discovery protocol for a WebRTC video intercom, decreasing latency by 60% compared to existing solutions, while supporting 12 concurrent users.
- Integrated an optional Deep Learning based sign language detection feature to enhance accessibility for diverse environments like offices and homes

Distributed Product Specification Extraction System - Amazon ML Challenge 2024 National Rank 11

- ***Tech Stack:*** *Python, Docker, Redis, MySQL, MongoDB, CUDA*
- Built a distributed batch-processing system to extract specifications, dimensions, and units from 400,000 product images using fine-tuned Vision-Language Models in a scalable GPU-enabled pipeline
- Efficiently dispatched workloads across multiple instances with centralized result aggregation for seamless access, stability and querying

Publications

Water Quality Classes Modeling of Thamirabarani River IEEE 2024

- Conducted an extensive analysis of Thamirabarani River water quality using machine learning algorithms.
- Achieved 78% accuracy with Random Forest models to generate predictive insights on critical water parameters, supporting environmental policy decisions.

Volunteering

Microsoft Learn Student Ambassador - Beta Level

- Organized 5+ technical talks and workshops.
- Covered technologies such as Azure AI Cloud Services, Power BI analytics, Microsoft 365 tools, and GitHub Actions.

IEEE Engineering in Medicine & Biology Society (EMBS) - Student Branch – Chairperson

- Directed 15+ events bridging engineering and medicine.
- Encouraged knowledge exchange within the student community.