Sahil Santosh Naik

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Education

Rashtreeya Vidyalaya College of Engineering, Bangalore
B.Tech in Computer Science & Engineering - Final Year

Technical Skills

Languages: Python, Java, JavaScript, Kotlin, C/C++
Web Frameworks: React, Node.js, Express.js, Django, Flask
Frontend Technologies: React, HTML, CSS, TailwindCSS, Bootstrap
Backend & APIs: RESTful API design, Node.js/Express, Django REST Framework
Databases: MongoDB, PostgreSQL, SQLite, NoSQL concepts
Cloud & DevOps: AWS, Docker, CI/CD (GitHub Actions), Git/GitHub
Development Tools: VS Code, Android Studio, Postman, npm/yarn
Core Competencies: Data Structures & Algorithms, System Design, OS Internals, Problem Solving

Key Projects

Voice-Assisted Travel Query System (Full-Stack)   Source Code
- Developed a **voice-enabled web application** using **React frontend** and **Node.js/Express backend** with **MongoDB** database.
- Designed and implemented **RESTful APIs** for querying bus schedules, routes, and real-time transit data.
- Integrated **speech recognition APIs** to process natural language queries and deliver seamless user experience.
- Deployed with best practices including environment configuration, error handling, and API documentation.

Docker-based AI Image Classifier with CI/CD   Source Code
- Built a production-ready **Flask REST API** serving a **MobileNetV2** deep learning model for image classification.
- Containerized application using **Docker** and automated deployment with **GitHub Actions CI/CD pipeline**.
- Deployed on **Render cloud platform**, implementing best practices for scalability and maintainability.
- Handles image uploads via POST requests and returns JSON predictions with confidence scores.

Android Applications (Kotlin)   Source Code
- **Calorie Tracker**: Built with **Kotlin and SQLite**, featuring offline data persistence, goal tracking, and nutrition analytics.
- **PennyPeeper Finance Tracker**: Real-time expense tracking with push notifications, budget goals, and spending insights.
- Implemented clean architecture patterns with ViewModel, LiveData, and Repository design patterns.

Systems Programming Projects   Source Code
- **Custom Operating System**: Built bootloader in Assembly with 16-bit real-mode initialization, stack configuration, and low-level hardware control.
- **C++ Source Analyzer**: CLI tool using Clang AST to map source code to Abstract Syntax Tree nodes with GenAI-powered natural language annotations.

Awards & Competitive Programming

1st Place Winner - Intel GenAI Hackathon   Oct 2023
Project Repository   *Intel Developer Cloud*
- Won first place among 100+ teams by building a **Generative AI poetry bot** using **Large Language Models (LLMs)**.

- Optimized inference using **Intel Extension for PyTorch (IPEX)** on Intel Developer Cloud infrastructure.
- Demonstrated ability to rapidly prototype and deploy AI solutions in competitive timeframes.

Finalist - E-Yantra Robotics Competition   Jan 2024 - Apr 2024
Demo Video   *IIT Bombay*
- Selected as one of the top finalists nationwide in IIT Bombay's robotics challenge (Balanced Builder theme).
- Developed a **self-balancing robotic system** with manipulator arm for material transport on uneven terrain.
- Applied **control systems, embedded programming, and collaborative problem-solving** in multidisciplinary team.

Active Competitive Programmer   Ongoing
LeetCode Profile
- Solved **250+ algorithmic problems** on LeetCode, focusing on Data Structures and Algorithms (DSA).
- Achieved global ranking in **Top 500K** on LeetCode, demonstrating consistent problem-solving proficiency.
- Regular participant in coding contests, refining skills in optimization and algorithm design.