SABARI S

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PROFESSIONAL SUMMARY

Computer Science undergraduate with a solid foundation in data structures, algorithms, and core CS fundamentals, paired with hands-on experience shipping production-ready web applications and applied AI/ML systems. Comfortable translating problem-solving into working code, skilled in React, Next.js, Node.js, MongoDB, FastAPI, and Python, with practical work in computer vision, browser automation, and geospatial data pipelines. Proven ability to take projects from problem definition and interface design through backend integration and deployment.

TECHNICAL SKILLS

Languages: JavaScript, Python, Java, C++, C
Frontend: React, Next.js, Tailwind CSS, HTML5, CSS3, Chrome Extension APIs
Backend: Node.js, Express.js, FastAPI, REST APIs
Databases: MongoDB, PostgreSQL, MySQL, Firebase
AI / Data: RAG, Computer Vision, XGBoost, Google Earth Engine
Tools & Concepts: Git, GitHub, VS Code, OOP, DBMS, Operating Systems, Computer Networks

EXPERIENCE

Software Development Intern — Indian Railways, Divisional Railway Office *Jun 2026*
Thiruvananthapuram

- Contributed to software development and application-related tasks within a government enterprise IT environment, gaining hands-on exposure to structured, compliance-driven development workflows.

Campus Lead — MuLearn GECSKP *2026 – Present*

- Lead and mentor student developers through full-stack development workshops, project guidance, and code reviews, strengthening peer technical capability.
- Coordinate technical initiatives and events with student teams and the executive committee to drive campus-wide developer engagement and participation.

PROJECTS

Predictive Algal Bloom Risk Forecasting for Vembanad Lake *Ongoing*
B. Tech Main Project | Python, XGBoost, Google Earth Engine, Sentinel-2, Streamlit, Folium

- Designing an early-warning system to forecast algal bloom risk 1–4 weeks in advance using satellite-derived chlorophyll-a concentrations and environmental variables.
- Engineering a multi-source data pipeline integrating Sentinel-2 imagery, rainfall data, fertilizer-season indicators, and ERA5-Land weather data for weekly lake-zone risk analysis.

RailVera
Next.js, FastAPI, PostgreSQL, pgvector, Gemini

- Built an AI-powered decision-support platform to evaluate promotion, leave, and transfer eligibility for Indian Railways personnel.
- Architected a double-grounded RAG system combining vector retrieval with deterministic rule validation to improve output reliability; integrated OCR-based document processing and JWT authentication.

Formitra AI
React, Node.js, Express.js, Chrome Extension APIs

- Built an AI-powered browser automation platform that reduces repetitive manual form-filling workflows for end users.
- Developed a computer-vision-based ID-card data extraction pipeline with privacy-conscious, in-memory processing to avoid persistent storage of sensitive data.

MH WebApp — Mess Management System
Next.js, Node.js, MongoDB

- Built and deployed a full-stack mess management system adopted by 150+ hostel residents to streamline meal tracking, billing, and administrative workflows.
- Developed dashboards and REST APIs supporting meal logs, mess billing, cut management, and expense tracking for administrative operations.

EDUCATION

Bachelor of Technology in Computer Science and Engineering — Government Engineering College Palakkad *Expected 2027*
CGPA: 7.95 / 10

CERTIFICATIONS

- Machine Learning — Stanford University / Coursera
- Introduction to Software Engineering — IBM / Coursera
- Programming in Java — NPTEL