

# Sachin A S

Bachelor of Engineering  
Computer Science and Engineering  
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## Summary

Computer Science undergraduate with experience building and deploying machine learning and full-stack projects through hackathons and self-driven learning. Currently strengthening fundamentals in data structures, algorithms, and the MERN stack to build scalable, real-world applications.

## Education

Degree/Certificate	Institute/Board	Score	Year
B.E., CSE (Scholarship Student)	KPR Institute of Engineering and Technology	8.2 GPA	present*
Senior Secondary (CBSE)	Gem International Senior Secondary School	90.2%	2023
Secondary (CBSE)	Adharsh Vidhyalaya Public School	80.2%	2021

## Projects

### • S.C.A.N – Structural Crack Analysis Network (2025)

*Python, PyTorch, OpenCV, Streamlit*

- Fine-tuned a VGG-16 based CNN on an augmented crack image dataset, enabling classification into Hairline, Moderate, and Critical severity levels.
- Implemented OpenCV-based image preprocessing and contour analysis to estimate crack length and width from detected regions.
- Deployed an interactive Streamlit application for real-time image analysis, reducing manual inspection effort by approximately 90%.

### • Floatchat – Conversational Analytics for Ocean Data (2025)

*Python, PostgreSQL, ChromaDB, Docker, React.js*

- Developed an AI-powered conversational system to query ARGO float oceanographic data using Retrieval-Augmented Generation (RAG).
- Designed a data ingestion pipeline to parse NetCDF files, store structured metadata in PostgreSQL, and generate vector embeddings for semantic search.
- Integrated ChromaDB/FAISS for efficient similarity-based retrieval, enabling accurate responses to natural language queries.

## Skills

Programming Languages Python , javascript  
Technologies React, Express, MongoDB, PostgreSQL ,n8n, git & github  
Soft Skills Problem Solving, Teamwork, Communication, Sponsorship Management

## Certifications

- **NPTEL:** Computer Networks and Internet Protocol (2024), Cyber Security and Privacy(2025), Intro to Industrial IOT 4.0(2025)
- **Cisco (Ongoing):** CCNA Networking fundamentals (2025)
- **Azure(ongoing):** Azure Az-900

## Achievements

- Awarded Scholarship for Academic Excellence at KPRIET (2024)
- Finalist among 120+ teams at a national-level hackathon for an ML-based infrastructure inspection system