Akansha Madavi

Indian Institute of Technology, Goa

Fourth Year **Undergraduate**, **Computer science and engineering**
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Education

BTech,Computer science and engineering, Indian Institute of Technology Goa	CGPA : **5.3/10**	2024 – Present
Class 12, State, Prerna College of engineering,Nagpur,Maharashtra	Aggregate: **75** %	2018 – 2020
Class 10, State, Tiny tots High School,Nagpur,Maharashtra	Aggregate: **93** %	2018

Experience

1.Internship - Diagonal Matrix: (May2023 – June2023)

Interacted with core business teams to gather requirements, resolve product bugs, and enhance performance.

Designed and developed rich **user interfaces (UI)** and **server-side logic**.Integrated third-party **APIs**, managed **database design**, and optimized performance.Deployed CI/CD pipelines, maintained version control, and ensured comprehensive documentation.Utilized **HTML, CSS, and JavaScript**.

2.Web Development Projects: Developed personal and shopping websites, including portfolios, to-do list apps, and login pages using **HTML, CSS, and JavaScript**; collaborated on a fully functional shopping site, contributing to front-end design and development.

Projects

1.AI-Powered Virtual Assistant / Chatbot

Built an AI-powered chatbot using :**NLP libraries ,spaCy, Hugging Face** for client interaction.

Developed a full-stack application with **Flask/Django backend and React frontend.** the application on the cloud for scalable, real-time interaction.

2.Traveling Salesman Problem Optimization:

Solved the TSP using a genetic algorithm to minimize travel distance between cities.

Implemented population initialization, selection, crossover, and mutation using tools: **Python, NumPy, DEAP**.

Optimized route efficiency by experimenting with GA parameters.

3.Supply Chain Optimization Tool:

Objective: Minimized transportation costs while fulfilling store demands and adhering to warehouse supply limits.

Approach: Employed **Mixed Integer Programming (MIP)** to determine the optimal transport quantities.

Outcome: Achieved cost-effective transportation planning, ensuring all demands were met and supplies were utilized efficiently.

Tools Used: Optimization techniques using **Python and mathematical modeling**.

4.Mini Project: Raspberry Pi OS Customization and Model Exploration:

Customized Raspbian OS for educational use, focusing on **Python** and **Scratch programming**.

Explored hardware differences across Raspberry Pi models (A, B, A+, B+, Pi Zero), including USB and Ethernet connectivity.

Gained experience in SoC integration and system management on minimal OS setups.

5.Mini Project:Network Simulation using NS3:

Simulated and analyzed network protocols, wireless communication, and routing using NS3.

Compared NS3 with other network simulators, highlighting features and performance for various network studies.

6.Airbnb Clone: Created a front-end replica of Airbnb using **HTML and CSS**. Focused on replicating the layout and user experience of the original platform.

Skills

Programming Skills:	C/C++ ,Python,Java,Javascript
Development	HTML,CSS,React.js,Bootstrap, MongoDB,Node.js, API
Coursework	DSA,Microprocessor 8085,Computer Networks,Computer Architecture,Deep Learning in Computer Vision,Probability and statistics , Operating Systems,Artificial Intelligence, Discrete Structures, Machine Learning, Compiler Design ,Digital Systems Design, Algorithm Design
Developer tools	VSCode,Git/Github,Jupyter,Latex,Linux,Figma,Canva,MS WORD,MS Excel,Shell Scripting
Other skills	Management,Leadership,Communication

Positions of Responsibility

Alumni Team Member	Design Core member in Alumni(IIT Goa Alumni club)	(2022 – 2023)
Originals Team Member	Core member in Originals(Media club) contributing in(Technical and Cultural fests)	(2021 – 2023)

Achievements

- NSO,IMO-Two times gold medalist,Alose received many awards in arts, sketching and drawing

Extracurriculars & Hobbies

- **Basketball**: Selected for the Inter IIT Sports Meet 2022.   2022
- **Social Media Content Creator and Marketer:**Developed engaging content for social media platforms, focusing on branding and audience engagement.
- **Painting , sketching and Hosting**: Won several awards for artistic achievements in painting and sketching.
- **Hosting**: Hosted and organized multiple successful events, demonstrating strong leadership and public speaking skills.