

# GAJENDRA MANDAL

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## SUMMARY

I am Gajendra Mandal, a final-year B.Tech (Hons.) Data Science student at CSVTU Bhilai with a solid foundation in computer science and hands-on experience in academic and research projects. During my internship at IIT Gandhinagar, I worked on AI-driven solutions, including thermal imaging-based respiration monitoring and applying vision-language models to thermal data. This strengthened my skills in machine learning, computer vision, and end-to-end project development. I aim to leverage these capabilities to tackle real-world challenges in data science and AI while contributing to innovative, impactful projects in a dynamic environment.

## EDUCATION

Degree/Certificate	Institute/Board	CGPA/Percentage	Year
B.Tech(H) CSE(DS)	Chhattisgarh Swami Vivekanand Technical University	7.5/10(Present)	2022-2026
Senior Secondary (12th Board)	Kendriya Vidyalaya, Ambikapur	83%	2022
Secondary (10th Board)	Kendriya Vidyalaya, Ambikapur	65%	2020

## WORK EXPERIENCE

**Research Intern – Computer Vision** Feb 2025 – Present  
**Indian Institute of Technology Gandhinagar.**

- Developing thermal imaging-based respiration and sleep-apnea detection pipelines, including YOLO-based nostril detection and vision-language models (VLMs) for thermal data interpretation.
- Utilizing Python, PyTorch, OpenCV, and Docker for image processing, model training, and deployment within research workflows.
- Contributed to improved respiration signal extraction accuracy and dataset annotation automation, enabling scalable analysis of large thermal datasets for healthcare AI research.

## PROJECTS

**Bahikhata** 2024

- Developed Bahikhata: A platform to modernize record-keeping for due payments, replacing traditional pen-and-paper methods with a digital solution. The project is available live at Bahikhata Live.
- Implemented a dynamic customer management system: Designed a role-based access control mechanism using HTML, CSS, PHP, and JavaScript to ensure secure and efficient handling of user data.
- Enhanced functionality with custom WordPress development: Designed and implemented a plugin for role-based access control, enabling secure and efficient customer data management

**LILY -Desk assistance** 2024

- Developed a smart desk assistant, Lily: Designed to streamline productivity with advanced automation, natural language processing, and interactive features.

- Integrated cutting-edge technologies: Leveraged Python, OpenAI API, and Wikipedia API to enable intelligent responses, task automation, and real-time information retrieval.
- Enhanced user engagement and utility: Implemented features like interactive games and database management, showcasing versatility and innovation.

## SKILLS

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- **Programming Languages:** Proficient in C, C++, Python, R, SQL.
- **Data Science & Machine Learning:** Data Structures and Algorithms, Pandas, NumPy, Matplotlib, Machine Learning, Deep Learning, Natural Language Processing, Computer Vision.
- **Web Development:** HTML, CSS, JavaScript, Bootstrap.
- **Software & Tools:** WordPress, Git/GitHub, and MS Office Suite (Excel, PowerPoint, Word).
- **Platforms:** Visual Studio Code, MATLAB, Google Colab, Figma.
- **Creative Skills:** DaVinci Resolve (Video Editing), Canva (Graphic Designing).
- **Soft Skills:** Resource and time Management, problem-solving, teamwork, communication and leadership.

## ACHIEVEMENTS

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- National-Level Data Analytics Hackathon: Participated in a prestigious event organized by the IIM, Nagpur.
- IDC-2024: Selected to represent NSS and our university at the Independence Day Ceremony (IDC) 2024 in New Delhi.
- Hackathons: Actively participated in multiple hackathons organized by the Coding Club.
- First Position: Secured 1st place in the Human Rights Day event conducted by NSS.
- Rajya Puraskar: Awarded for outstanding performance and dedication in Scouts and Guides.

## VOLUNTEERING

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### National Service Scheme

- Served as Head Boy of National Service Scheme (NSS), demonstrating leadership and organizational skills.
- Nominated for IDC-2024.
- Achieved B-Certificate in the session 2023-24 reflecting commitment and dedication to NSS activities.
- Successfully organized various events within the student branch, showcasing strong coordination abilities.
- Actively participated in National Integration Camp, one day camp, 2-unit camps, contributing to community engagement and personal development.