

# Dheeraj N

8088829439 | [ndheeraj2003@gmail.com](mailto:ndheeraj2003@gmail.com) | [Portfolio Website](#) | [Github/Dheeraj](#) | [LinkedIn/Dheeraj](#)

## EDUCATION

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### Global Academy of Technology

Bachelor of Technology in Artificial Intelligence and Machine Learning

2021 – 2025

CGPA: 8.53

## EXPERIENCE

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### Python AI Developer Intern

Mar 2026 – Present

*Troogue.ai*

- Trained and optimized **AI/ML models**, including a **face detection system** to identify repeat interview attempts and a **Mother Tongue Influence (MTI) model** for accent analysis using **Computer Vision** and **NLP**.
- Developed and worked extensively with backend **APIs** using **Flask** and **FastAPI**, and validated endpoints using **Postman** to ensure reliability and correctness.
- Refactored codebases to achieve **production-ready standards**, applied **LLM best practices** including prompt engineering, and managed **database interactions** using **PostgreSQL**.
- Collaborated with **microservices** and **testing teams** in a production environment, and contributed to backend development by building APIs using **Node.js**.

### Full-Stack Development Intern

Jan 2025 – Jun 2025

*DigiMogo*

- Led **end-to-end deployment** of web portals and developed responsive UIs using **Next.js**, **Bulma**, and modern **CSS**, ensuring seamless **mobile compatibility** and improving performance, accessibility, and **SEO visibility**.
- Built an internal **webpage builder** using **React.js** and **RESTful APIs**, enabling dynamic content updates via a database-backed interface.
- Contributed to a scalable **CRM SaaS platform** and supported backend integration efforts to streamline client lifecycle workflows.

### Machine Learning Intern

Oct 2024 – Nov 2024

*Hindustan Aeronautics Limited (HAL)*

- Engineered an AI-driven **gaze detection system** to enhance **cockpit safety** by enabling **hands-free control** of avionics.
- Developed and integrated **blink detection algorithms** for seamless pilot interaction with on-screen cockpit elements.
- Collaborated with industry experts to refine the system for **real-world deployment** in aviation.

## PROJECTS

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### EchoSight | *YOLO, OpenCV, Face Recognition, TTS, Arduino IDE, ESP32, NodeMCU*

2025

- Developed an **AI-powered assistive device** that provides real-time **audio descriptions** for visually impaired users.
- Integrated **YOLO** for object detection, **facial recognition** for user identification, and **text-to-speech (TTS)** for verbal feedback.
- Collaborated with hardware teams to build a system using **ESP32**, **NodeMCU**, and **ultrasonic sensors** for enhanced environment perception.

### ASL Hand Sign Recognition | *Python, OpenCV, MediaPipe, TensorFlow, CNN*

2024

- Developed a **CNN-based deep learning model** for real-time American Sign Language (ASL) gesture recognition.
- Built and labeled a **custom dataset** with 30+ hand gestures, improving model robustness and accuracy.
- Integrated **OpenCV** and **MediaPipe** for efficient **hand tracking** and gesture recognition, enhancing real-time performance.

## TECHNICAL SKILLS

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**AI/ML:** Deep Learning, Computer Vision, NLP, CNNs, RNNs, LSTMs, Transformers, LLMs, Prompt Engineering  
**Programming & Frameworks:** Python, C, JavaScript, SQL, PyTorch, TensorFlow, Keras, Scikit-Learn, OpenCV, LangChain

**Backend, Databases & APIs:** Flask, FastAPI, Node.js, REST APIs, Microservices, PostgreSQL

**Frontend & Tools:** Next.js, React.js, Tailwind CSS, Bulma, Git, Postman, VS Code, Jupyter Notebook