

MAHEAK DAVE

+91-8017215164 ◇ Kolkata, WB

maheakdave@gmail.com ◇ [linkedin.com/in/maheakdave](https://www.linkedin.com/in/maheakdave) ◇ scholar.google.com/maheakdave

OBJECTIVE

AI researcher with 2 years of research experience in deep learning and computer vision, seeking full-time Deep-learning R&D roles.

EDUCATION

Bachelor of Computer Science with specialization in A.I., Techno India University 2021 - 2025
CGPA - 8.56

SKILLS

Technical Skills	Pytorch, Scikit-Learn, Open-CV, Python, C++, JavaScript, SQL, MongoDB
Soft Skills	Collaboration, Problem-solving, Communication, Time management, Adaptive
Languages	English, Hindi, Gujarati

EXPERIENCE

Research Intern	Sept 2024 - Sept 2025
DRDO (Defence Research and Development Organization)	<i>Kolkata, WB</i>

- Pioneered a novel constructive perturbation technique and developed an innovative self-distillation strategy, achieving a remarkable 20% improvement in neural network performance over baseline metrics.
- Designed and Developed a desktop application consisting of existing CNN-based explainable algorithms and novel algorithms developed under this project.
- Integrated well known explainable algorithms such as Grad-CAM++, Layer-CAM, and many more, written from scratch in Pytorch, with the desktop application.
- Researched on several defences such as gradient obfuscation, Certified radius based, Parceval networks, etc. against image perturbation based adversarial attacks on neural networks, which counters atleast 90% of the attacks.

Student Researcher	Apr 2023 - Feb 2024
Remote	<i>Kolkata, WB</i>

- Published 6 research papers under different specialized university professors.
- Designed and implemented a novel FPN based segmentor for road detection under Dr. Debasis Chaudhuri.
- Authored 3 research papers on emotion detection using EEG signals, supervised by Dr. Pawan Kumar Singh.
- Contributed 2 research papers for a local conference (ICSSAI-2023). Awarded best paper award for one of them.

PROJECTS

Lunar Rover Pathfinder Developed a scalable Python backend using FastAPI and Cython for an autonomous lunar rover pathfinding system that processes high-resolution satellite imagery. Utilized a PyTorch-based **Neural A* algorithm** achieving 15% reduced latency compared to traditional pathfinding methods, while integrating YOLOv11 object detection with morphological operations to enable real-time obstacle avoidance and optimal path planning.

ACHIEVEMENTS

- Stood first at the NASA space apps local chapter event-2024.
- Came in the top-6 of the anonymizer hackathon supported by Department I.T and electronics, Govt.of West Bengal.
- Stood 3rd in the GDSC-TIU Zeal of Code 2023, which was a Competitive Programming contest hosting hundreds of participants from the Techno India University.