# AYAN GAIROLA

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## HACKATHONS

**National Finalist - Adobe GenSolve 2024**
*Team Motion Minds* **(Captain)** *July 2024 – September 2024*

- Led the team to become one of the **Top 6** teams out of **1.3 lakh** registrations across India.
- Presented a cutting-edge project using Generative AI, Machine Learning, and Deep Learning techniques to Adobe's top management at the Noida office.

**GameSense** [Github]
*Associated with Adobe GenSolve Hackathon'24 Finale*

- Engineered a YOLOv5-based system for real-time player and ball detection at 30 FPS with 95% accuracy, incorporating interpolation for smoother motion tracking.
- Developed a mini court visualization tool for tracking key gameplay events like fouls, rallies, and ball bounces.
- Implemented generative AI commentary using Google Gemini for dynamic, context-aware match insights.
- **Tech Stack**: **OpenCV**, **TensorFlow**, **YOLOv5**, **PyTorch**, **Google Gemini**.

**Winner - AceCloud x RTDS Hackathon 2025**
*Team AIML-007* *May 2025*

- Won AceCloud x RTDS Hackathon 2025 besting over 20 selected teams across GGSIPU.

**OpenStack Cloud Management System with Natural Language Interface** [Github]
*Associated with AceCloud x RTDS Hackathon'25*

- Developed a cloud management application using the OpenStack SDK to manage real OpenStack cloud infrastructure.
- Enabled users to issue natural language prompts (e.g., "create a server" or "delete a volume"), which an AI agent powered by Google's Gemini model translated into precise OpenStack API calls
- **Tech Stack**: **Python**, **OpenStack SDK, FastAPI**, **Google Gemini**.

## PROJECTS

**Autonomous Self Driving Car** [Github] *February 2025 - April 2025*

- Developed a custom deep learning model with greater than 99% accuracy and loss less than 0.04% for precise steering angle prediction.
- Engineered a robust lane detection system using OpenCV and Python, incorporating advanced techniques such as Canny edge detection, Hough Transform, and region masking to identify road lanes.
- Enhanced functionality by integrating YOLO-based object segmentation for real-time visualization of road scenes and object detection.
- **Tech Stack**: **OpenCV**, **TensorFlow**, **YOLOv11**,

**YouTube Backend** [Github] *February 2024*

- Built a fully functional video hosting website inspired by YouTube, integrating user authentication, video uploads, and interactive features like like/unlike, comments, subscription management and more.
- **Tech Stack**: **Node.js**, **Express.js**, **MongoDB**, **bcrypt**, **JWT**, **Cloudinary**.

## EXTRA CURRICULARS AND ACHIEVEMENTS

- Serving as the **Executive of the ML Team in CSI-IW**, I mentor 150+ juniors through biweekly doubt-solving sessions and hands-on projects, driving noticeable improvements in their technical skills.
- Solved 750+ Data Structures and Algorithms questions across various platforms.
- Achieved a maximum rating of 1808 (Top 7.31%) on LeetCode.
- Achieved a maximum rating of 1270 (Pupil) on Codeforces.

## EDUCATION

**Maharaja Agrasen Institute of Technology** *Delhi, India*
*BTech in Artificial Intelligence and Data Science* **(CGPA - 8.9)** *2022 – 2026*

## SKILLS

**Programming Languages:** Java, Python, JavaScript.

**Technologies:** Machine Learning, Deep Learning, Natural Language Processing , Computer Vision , FastAPI , Express.js , Node.js, Git .

**DataBases:** Postgre SQL, MongoDB.

## CERTIFICATIONS

- **Machine Learning Specialization** – Coursera (Andrew Ng), 2024
- **Deep Learning for Computer Vision** – CampusX (Balaji Chippada), 2025