

Aditya Routh

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EDUCATION

VIT Bhopal University, Bhopal B. Tech in Computer Science (specialization in Artificial Intelligence and Machine Learning)	2022 – 2026 8.92 CGPA
Jermels' Academy, Siliguri, West Bengal Intermediate (XII Science) High School (X)	2010 – 2022 96.2 % 94.4 %

TECHNICAL SKILLS

Programming Languages: Python, C++

Tools/Frameworks: OpenCV, MediaPipe, Scikit-learn, MySQL

Core Knowledge: Data Structures & Algorithms, Artificial Intelligence, Machine Learning, Reinforcement Learning, Operating Systems, Computer Networks

PROJECTS

- **Real-Time Sign Language Translator** | Python, OpenCV, MediaPipe Apr 2024 - Aug 2024
 - Trained a hand gesture recognition model to translate sign language in real time.
 - Implemented feature extraction with MediaPipe and classification with scikit-learn.
 - Improved translation accuracy by 20% through iterative model tuning.
 - Source code: https://github.com/iamadro/sign_language_translator/
- **Training Smarter: Exploring RL Dynamics with Tic-Tac-Toe** | RL, Deep RL In Progress
 - Designed an adaptive reinforcement learning agent that learns through dynamic opponent strategies.
 - Analyzed how training setups and opponent strategies affect learning efficiency and gameplay.
 - Comparing performance of Q-Learning and Deep Q-Learning.
- **Autonomous Drone for Smart Agriculture** | Pixhawk, Raspberry Pi, Computer Vision Aug 2024 - Apr 2025
 - Developed drone navigation with Pixhawk and onboard vision system for plant disease detection.
 - Automates field navigation, plant disease classification, and precision spraying.
 - Implemented disease classification model achieving preliminary accuracy of 92%.
 - Working on payload automation for targeted spraying.

LEADERSHIP & ACHIEVEMENTS

- **Student Event Coordinator, Robotics Club:** Oct 2024 - Oct 2025
 - Organized hands-on workshops, robotics contests, and tech sessions for 70+ students.
- **Smart India Hackathon:** Sep 2024 - Nov 2024
 - Selected for national-level round; showcased problem-solving and teamwork skills.
 - Certificate link: <https://tinyurl.com/3a3mv46y>
- **Debate & Chess Participant (School Level):** Apr 2018 - Apr 2020
 - Participated in multiple inter-house events, honing public speaking and strategic thinking.

CERTIFICATION

- **Privacy and Security in Online Social Media** | NPTEL
 - Top 5% rank; covered data privacy, security threats, and social network analysis.
- **Applied Machine Learning in Python** | University of Michigan, Coursera
 - Hands-on with supervised/unsupervised learning, model evaluation, and scikit-learn.
- **Computer Vision** | Offered by Vityarthi
 - Studied image preprocessing, segmentation, object detection, and deep learning with OpenCV.