

Murtaza Sadriwala

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SUMMARY

Results-driven Machine Learning and Computer Vision researcher with hands-on experience in **designing, developing, and deploying** AI solutions using TensorFlow, PyTorch, and MLOps. Adept at **building** clustering models, OCR pipelines, YOLO+UNet-based vision models, stereo camera depth estimation, and fine-tuning deep learning architectures. Passionate about **advancing** research in Generative AI, 6D pose estimation, and autonomous robotics.

WORK EXPERIENCE

Research Intern – *CloudRaft (Remote)* Jul 2025 – Present

- **Researched** and **applied** clustering algorithms to uncover patterns in large-scale datasets.
- **Generated** actionable insights and **contributing** to advanced data-driven decision-making solutions.

Research Intern – Computer Vision & Swarm Intelligence, *SPAROBIX (Remote)* Mar 2025 – Aug 2025

- **Designed** and **implemented** deep learning models to adapt terrestrial recognition systems for orbital imagery.
- **Applied** domain adaptation techniques (style transfer, adversarial training, fine-tuning) to enhance robustness.
- **Engineered** decentralized swarm decision-making algorithms inspired by biological systems.
- **Investigated** applications in autonomous navigation, resource allocation, and robotic swarms for space missions.

Computer Vision Research Developer – *CompuRf, SGSITS* Mar 2025 – May 2025

- **Automated** Rf value computation for TLC plates by **integrating** advanced object detection and OpenCV pipelines.
- **Improved detection accuracy to 95%** using augmentation, contour filtering, and edge detection.
- **Reduced manual analysis time by 80%** by **deploying** deep learning-based TLC spot detection and alignment models.
- **Collaborated** with cross-functional teams to **integrate** backend into a Flutter-based mobile application.

LEADERSHIP & POSITIONS OF RESPONSIBILITY

President – HackIndore 3.0 Sep 2025

- **Directed** and **executed** HackIndore 3.0, a 12-hour hackathon with 500+ participants.
- **Spearheaded** marketing campaigns **achieving** 100K+ Instagram reach and 30K+ impressions on Unstop.

Head – Research Project LexiconVakhya Aug 2025 – Present

- **Leading** an NLP research initiative on linguistic resource development and computational lexicon modeling.
- **Mentoring** junior researchers, **managing** project workflows, and **steering** research direction.

Technical Team Member – Team Nakshatra (ISRO Robotics Challenge) Mar 2025 – May 2025

- **Developed** and **tested** path planning strategies for autonomous drones in Martian simulations.
- **Implemented** classical (A*, Dijkstra) and metaheuristic (ACO, ABC) algorithms for dynamic optimization.
- **Evaluated** trade-offs between path quality, computation, and real-time drone navigation performance.

PROJECTS

TruthTrack: Real-Time News Vigilance Solution TruthTell ICEA 2025

Architected and **deployed** a topic modeling and semantic similarity pipeline (BERT, NMF, TF-IDF) for fake news detection.

Designed a scoring system combining Levenshtein, TF-IDF, and BERT-based cosine similarity, **boosting classification accuracy by 15%**.

Integrated solution into Flask web app and Chrome extension for real-time use.

Engineered an OCR-based system extracting product details (brand, size, MRP) using PyTesseract.
Developed CNN-based expiry label recognition **achieving 85% accuracy on test dataset**.
Enhanced compliance tracking processes with a **20% improvement** in efficiency.

SKILLS

Programming	Python • SQL • Git • Linux • VS Code • PyCharm • Kotlin (basic) • Flutter (basic)
Data Analysis	Pandas • NumPy • Matplotlib • Seaborn • Power BI (learning)
Machine Learning	Scikit-learn • TensorFlow • Keras • PyTorch • BERT • CNNs • Clustering • OCR pipelines
Computer Vision	OpenCV • PyTesseract • YOLO • UNet • CRNN • Stereo Depth Estimation
Frameworks	Flask • Streamlit • Jupyter Notebook

ACHIEVEMENTS

- **Patented** an automated multi-vegetable transplanter, recognized for contribution to agricultural technology.
- **Secured** 1st place – Skillathon 2024 by **leading** ML absenteeism analysis project among 240+ participants.
- **Ranked** Top 25 – ICEA TruthTell 2025 Hackathon (Ministry of Information & Broadcasting) among 5600+ teams.
- **Advanced** through Flipkart Grid 6.0 Robotics Track, **outperforming** 3500+ competing teams.

EDUCATION

2023 – 2027	B.Tech. in Information Technology , SGSITS Indore	CGPA: 8.39
2010 – 2022	St. Arnold's School , Higher Secondary (CBSE)	89.6%