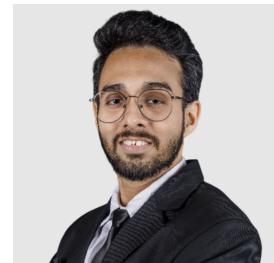


Vardhan Mistry

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📍 Chemnitz, Germany 💬 <https://www.linkedin.com/in/vardhan-mistry/>

⌚ github.com/Vardhan1303 ⚡ Male 🇮🇳 Indian (Valid German Work Permit)



MSc Mechatronics graduate with a strong research-oriented and computational background in machine learning, computer vision, and image-based data analysis. Experienced in designing reproducible pipelines, analyzing complex visual data, and independently executing research-driven projects with academic rigor.

Professional Experience

04/2025 – 12/2025 Stollberg, Germany	Master's Thesis – Flexible Soiling Detection for Automotive Cameras IAV GmbH <ul style="list-style-type: none">Developed a camera-based concept to detect raindrops and soil induced sensor degradation in autonomous vehicles.Built and annotated a 50,000+ multi-camera image dataset (pinhole, fisheye, stereo).Designed, trained, and evaluated CNN and Vision Transformer segmentation models under clean and degraded conditions.Reduced false detection rate from 4.03% to 0.17% using clean-image supervision strategies.Exported models to ONNX and validated 7 ms inference on NVIDIA RTX A1000 embedded hardware.
12/2024 – 02/2025 Chemnitz, Germany	Software Development Intern – Computational Imaging IAV GmbH <ul style="list-style-type: none">Developed a Python-based procedural raindrops generation and preprocessing pipeline for image analysis tasks.Automated manual workflows, improving reproducibility and efficiency.Compared data generation strategies to ensure statistical consistency and robustness.Delivered version-controlled, documented pipeline compliant with research standards.
08/2022 – 08/2023 Mundra, India	Assistant Manager - Industrial Automation Adani Group <ul style="list-style-type: none">Coordinated industrial robotic installations across mechanical, electrical, and control teams.Managed execution, contractors, and materials with on-time delivery and zero safety incidents.Prepared technical reports and dashboards for management decision-making.

Projects

05/2025 – 07/2025	Platooning Autonomous Following Robot ↗ <ul style="list-style-type: none">Designed vision-based low-cost following system as an alternative to LiDAR.Implemented real-time pose and distance estimation using Kalman filtering.Integrated perception with closed-loop motor control for stable autonomous behavior.
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Education

10/2023 – 02/2026 Weingarten, Germany	RWU Hochschule Ravensburg-Weingarten Master of Science in Mechatronics (Overall Grade: 1.8/5.0) Key Modules: Advanced Mathematics, Advanced Control Systems, Robotics
07/2018 – 05/2022 Vadodara, India	The Maharaja Sayajirao University of Baroda Bachelor of Engineering in Mechanical Engineering (Overall Grade: 1.2/5.0)

Technical Skills

Programming & Frameworks: Python, C++, NumPy, Pandas, PyTorch, OpenCV, Git, Linux, Docker

Machine Learning & Computer Vision: Deep learning, image segmentation, unsupervised pattern analysis, model evaluation, dataset handling

Research & Reproducibility: Pipeline design, experiment tracking, documentation, version control

Computational Systems: Large-scale datasets, performance analysis, model validation

Math & Methods: estimation, filtering (Kalman), numerical optimization

Certificates

TensorFlow for Deep Learning Bootcamp  — Udemy

Python for Computer Vision with OpenCV and Deep Learning  — Udemy

Advanced Driver Assistance Systems (ADAS)  — Udemy

Languages

German — Proficient (B1) | **English** — Fluent (C1) | **Hindi** — Native | **Gujarati** — Mother tongue