Asif Rajput, PhD

Inventor | Computer Vision Engineer | Researcher

Konstanz, DE | engineer.asifali@gmail.com | +49 173 2037278 | rajputasif.github.io | Linkedin:/rajputasif

Professional Summary

Experienced computer vision engineer and researcher specializing in multi-sensor fusion, deep learning and 3D reconstruction for robotic perception systems. Focused on employing research into practical applications.

Technologies

Programming: Python, C++
Tools and technologies: PyTorch, OpenCV, ROS, CUDA, Git, Docker, MongoDB, MLFlow
Sensor: RGBD, Stereo and LiDAR

Employed Concepts: 3D Reconstruction, Object Detection, Segmentation, Tracking, Multi-sensor Calibration, SLAM

Experience

Computer Vision Software Engineer, Organifarms – Konstanz, DE   Mar 2024 – Jul 2025

- Reduced fruit yield loss by 45% through the design and deployment of a deep learning pipeline, enabling real-time inference and robotic actuation.
- Reduced plant damage by 30% during autonomous harvesting by designing and deploying a robust environment perception system for robotic arm control.

Senior AI Engineer (Remote), Kodifly Limited – Islamabad, PK   Mar 2023 – Mar 2024

- Accelerated image annotation by 10x through the development and deployment of a custom AI-assisted annotation system, significantly improving labeling efficiency.
- Developed and deployed a production-grade ML pipeline fusing LiDAR and video data for enhanced object detection, integrated with AI-driven software to deliver actionable insights for infrastructure maintenance.
- Led a cross-functional team of back-end, front-end, and AI engineers to drive sprint-based Agile development and ensure timely delivery of project milestones.

Senior Researcher Robotics, CRAIB-SIBA – Sukkur, PK   Jun 2020 – Oct 2022

- Developed a device leveraging computer vision and deep learning to automate the digitization of handwritten documents and forms.
- Led a robotics team in designing and deploying a deep learning powered surveillance system for real-time vehicle detection, tracking, speed analytics, and traffic flow management.

Assistant Professor and CV Researcher, NUST-SEECS – Islamabad, PK   Feb 2019 – May 2020

- Supervision and mentorship of students/researchers to expand the frontiers of CV/ML research.

PhD Researcher, German Aerospace Center (DLR) – Berlin, DE   Oct 2014 – Sep 2018

- Design and Implementation of a generalized novel 3D reconstruction framework capable of handling various sensor devices (such as RGBD cameras, LiDAR and StereoVision).
- Developed and **patented** a decentralized system with tailor-made protocol to facilitate remote visualization of 3D reconstruction.

Languages

- English – Fluent
- German – Intermediate

Education

PhD in Electrical Engineering Technical University Berlin, DE. 2014 – 2018
- **Major:** Computer Vision and 3D reconstruction

M.Sc in Computer Engineering NUST University, Islamabad, PK. 2009 – 2011
- **Major:** Digital image processing

B.S. in Computer Systems Engg.QUEST University, Nawabshah, PK. 2004 – 2009
- **Major:** Embedded systems and Robotics.

Publications

Patent:

- Method and arrangement for selecting a color model conversion for an image compression, *WO2020160991*, 2018.

Journal Articles:

- Residual learning with annularly convolutional neural networks for classification and segmentation of 3d point clouds, *Neurocomputing*, 2023.

- Multi-object tracking: A systematic literature review, *Multimedia Tools and Applications*, 2023.

- A novel offline handwritten text recognition technique to convert ruled-line text into digital text through deep neural networks, *Multimedia Tools and Applications*, 2022.

- Diagnosis and prediction of LGA fetus using the stacked generalization method, *Applied Sciences*, 2019.

- Multi-sensor depth fusion framework for real-time 3d reconstruction, *IEEE Access*, 2019.

- A regularized volumetric fusion framework for large-scale 3d reconstruction, *ISPRS JPRS*, 2018.

Full list: ORCID-Link