Adil Shaikh

Bristol, UK · adiljus2@gmail.com · LinkedIn

Summary

Senior computer vision engineer with 4 years taking geometric 3D perception & sensor fusion (registration, calibration, state estimation) from first principles to production in live industrial environments. At DeGould I own vehicle pose estimation and localisation for the next-generation vehicle measurement booth: algorithm research, multi-sensor calibration, real-time tracking, and the production infrastructure it ships on. Core depth in LiDAR processing, point-cloud registration, camera calibration, sensor fusion, and state estimation, in Python and C++. What drives me is the hard part everyone underestimates: turning noisy, messy real-world sensor data into systems that hold up in the field.

Work Experience

Senior Computer Vision Engineer (3D Perception)

DeGould, Exeter 2026 – Present

Computer Vision Engineer (3D Perception)

Nov 2022 – 2026

- Owner of the vehicle pose-estimation and localisation capability. Research, algorithm design, and architecture through to production deployment for a system designed to scale across a 50+ booth fleet.
- Built the real-time vehicle tracking pipeline (GICP registration + error-state Kalman filter, ROS 2) estimating 6-DoF vehicle pose against CAD reference models in live booths.
- Designed the joint multi-LiDAR calibration system (MAP estimation with survey-error inference): cut per-sensor residual from ~19 mm to 6–10 mm and inter-sensor ground-plane disagreement from 0.83° to 0.02°, with an automated verification mode for in-field drift detection.
- Architected a centralised defect-localisation refinement service deployed across 10 customer sites, consolidating accuracy improvements into a single pipeline and improving localisation accuracy by ~15–20%.
- Delivered a stereo-vision panel-gap estimation service holding ±0.3 mm across varied paint textures and booth lighting.
- Built an Isaac Sim digital twin of the measurement booth to generate synthetic LiDAR, validate sensor geometry, and derive mount-tolerance specifications for mechanical design before committing physical hardware.
- Define the multi-sensor strategy: own all intrinsic/extrinsic calibration and sensor selection across LiDAR, stereo, RGB-D, ToF, structured light, and laser profiling.
- Built and own the perception team's CI/CD and production infrastructure (Kubernetes, edge deployment, and NATS messaging), enabling the team to ship reliable releases faster and standardising how systems move from prototype into live industrial workflows.

Robotics Engineer Intern

Saltriver Infosystems Oct 2020 – Feb 2021

- Built an autonomous UV-disinfection robot (ROS): 2D SLAM with Adaptive Monte Carlo Localization, plus the kinematics and PID control layer for autonomous traversal of cluttered hospital corridors.

Computer Vision & Deep Learning Engineer Intern

AirProbe Sep 2020 – Nov 2020

- Built CV pipelines generating digital twins of solar plants from aerial imagery (Detectron2, PyTorch): serial-ID and panel-damage detection, with an image-stitching pipeline rendering site maps onto Google Earth; trained at scale on Azure.

Software Engineer Intern (DL / Robotics / CV)

IIT Bombay May 2020 – Jun 2020

- Developed an ORB-feature-based pick-and-place system for a 7-DoF mobile manipulator (RGB-D), and a 3D localisation and mapping module fusing LiDAR and RGB-D data for autonomous traversal.

Education

MSc in Aerial Robotics

University of Bristol, UK 2021 – 2022 · Distinction

- Thesis: 6-DoF pose estimation of an uncooperative satellite for autonomous rendezvous, using a hybrid CNN–ViT architecture (EfficientNet-Lite backbone).

BEng in Mechanical Engineering

KJ Somaiya College of Engineering, India 2016 – 2020

Skills

- **Languages:** Python, C++, MATLAB
- **3D Perception:** Point-cloud registration (ICP/GICP/NDT), multi-sensor calibration (intrinsics/extrinsics), sensor fusion, state estimation (Kalman filtering), SLAM, pose estimation, stereo & structured-light geometry, 3D reconstruction
- **Sensors:** LiDAR, stereo, RGB-D, ToF, structured light, laser profiling, IMU
- **Tools / Infrastructure:** OpenCV, PyTorch, TensorFlow, Detectron2, NumPy/SciPy, ROS / ROS 2, Gazebo, Isaac Sim, Docker, Kubernetes, NATS JetStream, Terraform, Git, GCP, AWS, Azure

---

Publications & Awards

- "Gaits Stability Analysis for a Pneumatic Quadruped Robot Using Reinforcement Learning," *International Journal of Industrial and Manufacturing Engineering*, 2021
- "Amphibious Self-Balancing Autonomous Surveillance UGV," *International Research Journal of Engineering and Technology*, 2021
- 5th place, ABU Robocon 2019 (organised by IIT Delhi) — led the software team (detection, tracking, pose estimation; ROS/Gazebo).