



# Manohar Kuse

Computer Vision / ML Engineer

Zürich, Switzerland

## About Me

Senior Computer Vision Engineer with a PhD in Robotics and 5+ years of industry experience building real-time SLAM, 3D reconstruction, and ML systems for robotics and AR. Skilled at delivering scalable cloud deployments and maintaining production-grade pipelines.

I thrive in collaborative teams, enjoy technical discussions, and value knowledge sharing. I'm easy-going, curious, and driven by a desire to build meaningful, real-world systems.

Currently seeking a senior technical role that offers opportunities to learn, grow, and contribute to impactful products at the intersection of ML, vision, and scalable deployment.

## Contact

+41 779912050

mpkuse@connect.ust.hk

[LinkedIn Profile](#)

## Personal

Indian citizen

Open B-Permit in Switzerland

### Languages:

- English (Fluent)
- German (A2)
- Marathi, Hindi

## Working Experience

### Senior Robotics Engineer

Dec 2025 - Present

Pick8Ship Technology AG,  
Zurich, Switzerland

**Task:** Development of Inhouse SKU scanning in 3D

**Action:** A computer vision tool that is easy to use.

**Tech:** OpenCV, Python, docker

### Senior Computer Vision Engineer

Jan 2022 - Dec 2024

Magicleap, Zürich, Switzerland

**Task:** SLAM relocalization Edge Cases

**Action:** Heuristics for handling stairs, IMU Feedback checks

**Tech:** C++, Tensorflow, Python

**Task:** Application KPI DashBoard

**Action:** Cloud CI/CD runners, nightlies, Plot artifacts storage

**Tech:** GCP, dash, docker

**Task:** 3D Kinematics for sensor fusion on non-inertial base

**Action:** Analysis of dynamics, synthetic sensor data generation

**Tech:** Python, plotly, SymPy

### Robotics Engineer

Apr 2020 - Nov 2021

Rovenso AG, Fribourg, Switzerland

**Task:** Improve 3D Lidar Localization

**Action:** IMU+GPS+Lidar Sensor fusion, KPI reporting

**Tech:** GTSAM, ROS, PCL, IMU Kinematics

**Task:** Improve mission control, setting up and scheduling patrols

**Action:** Robotics UI, Map display, waypoint setting

**Tech:** Qt, Ros, RViz

**Task:** Autonomous Robot Docking

**Action:** Design docking station detection and approach

**Tech:** OpenCV, PCL, feedback controller

## Skills

### Programming Languages

- C++17/20, Python – Proficient in efficient, production-ready code; Experience with design patterns and generic programming.
- Maintained large-scale production C++ & Python codebases with performance-critical modules.

### Machine Learning & 3D Computer Vision

- Frameworks:** Tensorflow, keras, pytorch
- Libraries:** OpenCV, OpenGV, PCL(Point Cloud Library)
- Specializations:** Feature extraction, relocalization, pose estimation, 3D reconstruction, SLAM, NeRF, Gaussian Splatting

### Robotics

- Tools:** ROS/ROS2, RTOS, RViz, Ceres Solver, re:run, GTSAM
- Experience:** Real-time SLAM pipelines, sensor fusion, trajectory planning and optimization. Visualization with RViz and foxglove



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## Backend & DevOps

- Flask (RESTful API development), MongoDB, SQL
- Docker, Git, CMake, Linux Shell Scripting
- DevOps: CI/CD with GitHub Actions, Dockerized microservices
- Google Cloud Platform (GCP) – Compute Engine, Cloud Storage, BigQuery, Cloud SQL

## Softskills

- Curious and fast learner, Analytical and systems-minded.
- Adaptable, collaborative teamwork.

## Education

### Doctoral Studies (Ph.D)

Aug 2013 – Dec 2019

*The Hong Kong University of Science and Technology (HKUST)*

- Thesis: "Techniques for a failsafe Visual Inertial SLAM System"
- Learning to relocalize using streetview data
- Drone Kinematics and Control
- Web Frontends for KPI monitoring
- Tech: Python, Tensorflow, C++, ROS, GTSAM, Voxelblox, Flask, MongoDB, CERES solver

### Bachelor of Technology (B.Tech)

2008–2012

*The LNM Institute of Information Technology, Jaipur, India*

- Communication and Computer Engineering

## Select SLAM Projects

\*Both projects related to my doctoral thesis (~2019)

### Kidnap recovery in VI-SLAM

- Relocalization in visual-inertial SLAM system
- Learned image descriptors
- 3D pose and alignment

<https://github.com/mpkuse/cerebro>

### Image Descriptor Learning

- Image level descriptors
- trained using street view
- Deep neural network architecture

[https://github.com/mpkuse/cartwheel\\_train](https://github.com/mpkuse/cartwheel_train)

## References

### Benjamin Langman (Former Manager)

Senior Director, Magicleap Switzerland

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### Lucian Cucu (Former Manager)

R&D Team Lead, Wayout Robotics, Switzerland

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### Prof. Shaojie Shen (Thesis Supervisor)

Associate Professor, HKUST, Hong Kong

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