

Samer Abualhanud

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EDUCATION

Institute of Photogrammetry and GeoInformation, LUH

Photogrammetric Computer Vision, PhD Candidate

Hannover, DE

since Apr. 2024

Leibniz University Hannover

Mechatronics and Robotics, M.Sc.

Hannover, DE

Oct. 2021 - Apr. 2024

Leibniz University Hannover

Mechanical Engineering, B.Sc.

Hannover, DE

Oct. 2016 - Feb. 2021

WORK EXPERIENCE

Research Staff

Institute of Photogrammetry and GeoInformation, LUH

since Apr. 2024

Hannover, DE

- PhD topic: Spatio-Temporal Consistency for Self-Supervised Multi-View 3D Reconstruction
- Teaching: Image Sequence Analysis (Lab), Master's thesis supervision
- Multi-View Geometry, Depth Estimation, NeRF, SfM

+ *Python, Pytorch, OpenCV, CUDA*

Internship

Bosch Research

Nov. 2022 - Mai. 2023

Hildesheim, DE

- Implicit 3D representation of dynamic objects from 2D images using NeRF
- Addressed challenges posed by dynamic objects in outdoor scenarios, such as lighting variation and sparsity, by employing suitable feature embeddings and loss functions

+ *Python, Pytorch, OpenCV*

Working Student

Vision Lasertechnik

Oct. 2020 - Nov. 2022

Barsinghausen, DE

- Worked on developing an object detection and pose estimation framework for laser marking systems
- Worked on developing a ROS object detection package for Franka Emika robots with a mounted depth camera
- Worked on SLAM for a mobile robot prototype

+ *Python, TensorFlow, OpenCV, ROS, C++*

Student Research Assistant

Institute for Information Processing, LUH

Apr. 2021 - Oct. 2021

Hannover, DE

- Implemented an end-to-end pipeline for 3D human pose estimation and tracking

+ *Python, PyTorch*

MASTER'S THESIS

3D Occupancy Prediction from Multi-View 2D Surround Images

Bosch Research and Institute of Photogrammetry and Geoinformation, LUH

Oct. 2023 - Mar. 2024

Hannover, DE

- Used NeRF to model the 3D occupancy field
- Addressed challenges presented by dynamic objects in temporal supervision

+ *Python, Pytorch, OpenCV*

AWARDS

Robotics Talent Prize for best master's thesis, 1st Place (DE)
Lower Saxony's Ministry of Economics, Labour, Transport, and Digitalisation.

Karl Kraus Young Talent Award for best master's thesis, 3rd Place (DE, AT, CH)
German Society for Photogrammetry, Remote Sensing and Geoinformation (DGPF), Austrian Society for Surveying and Geoinformation (OVG), Swiss Society for Photogrammetry and Remote Sensing (SGPF)

PUBLICATIONS

CylinderDepth: Cylindrical Spatial Attention for Multi-View Consistent Self-Supervised Surround Depth Estimation

Conference on Computer Vision and Pattern Recognition Workshops (CVPRW) (2026). [Link](#)
S. Abualhanud · C. Grannemann · M. Mehlretter

Self-Supervised 3D Semantic Occupancy Prediction from Multi-View 2D Surround Images

PFG–Journal of Photogrammetry, Remote Sensing and Geoinformation Science (2024). [Link](#)
S. Abualhanud · E. Erahan · M. Mehlretter

SKILLS

Languages: English, German, Arabic

Programming Languages: Python, C/C++, Matlab, php

Tools & Programs: Git, LaTeX, Matlab, ROS

Libraries: TensorFlow, PyTorch, OpenCV, NumPy