

Philipp Schröppel

PHD STUDENT COMPUTER VISION AND DEEP LEARNING

Eschholzstraße 19, 79106 Freiburg i. Br., Germany

☎ +49-177-285-86-81 | ✉ philipp.schroepfel@posteo.de



Personal Information

Name Philipp Schröppel
Address Eschholzstraße 19, 79106 Freiburg i. Br., Germany
Phone +49-177-285-86-81
Mail philipp.schroepfel@posteo.de
Born December 3, 1992 in Kulmbach
Nationality German

Education

PhD Student Computer Vision and Deep Learning

COMPUTER VISION GROUP FREIBURG, HEADED BY PROF. THOMAS BROX

Working on 3D reconstruction with a focus on robust application to real-world data.

Freiburg i. Br.
since 01/2019

Information Systems Engineering, Grade: 1.7

TU DRESDEN

- Diplom degree programme (equivalent to M.Sc.).
- Student research thesis (equivalent to Bachelor thesis), Chair for Automation Engineering, Grade: 1.0.
Title: *Developing a SLAM Algorithm for an Omnidirectional Robot Using a ToF Depth Sensor.*
- Diplom thesis (equivalent to Master thesis), SICK AG, Waldkirch, Grade: 1.6.
Title: *Detection and Mapping of Obstacles for an Automated Guided Vehicle Using a 3D Sensor.*
- Degree: Dipl.-Ing. for Information Systems Engineering.

Dresden
10/2012 – 07/2018

Electrical Engineering

TU DRESDEN

Switched to information systems engineering in order to enroll for more computer science courses.

Dresden
10/2011 – 10/2012

Abitur, Grade: 1.5

MARKGRAF-GEORG-FRIEDRICH-GYMNASIUM

Kulmbach
2003 – 2011

Work Experience

Internship

SICK AG

Gesture Recognition Using Data of a 3D ToF Sensor.

Waldkirch (near Freiburg i. Br.)
5/2017 – 11/2017

Research Assistant

CHAIR OF AGRICULTURAL SYSTEMS TECHNOLOGY, TU DRESDEN

- Linux server administration.
- Extending a system for the management of agricultural processes and the analysis of acquired sensor data.

Dresden
7/2016 – 2/2017

Research Assistant

CHAIR OF PROCESS CONTROL SYSTEMS, TU DRESDEN

Development of Android apps building on semantic web technologies.

Dresden
11/2013 – 9/2014 and 4/2015 – 7/2015

Research

My broad research area is **3D reconstruction in terms of 3d geometry, ego-motion and object motion**. A particular focus is robust application on arbitrary real-world data. To this end, I am interested in:

- multi-view depth estimation
- single-view depth estimation
- optical flow estimation
- scene flow estimation
- depth-from-video
- implicit 3d scene representations (neural fields)
- generative models for learning scene priors

CONFERENCE PUBLICATIONS

- 3DV 2022 **Philipp Schröppel**, Jan Bechtold, Artemij Amiranashvili, Thomas Brox. *A Benchmark and a Baseline for Robust Multi-view Depth Estimation*. International Conference on 3D Vision, 2022.
- GCPR 2022 Leonhard Sommer, **Philipp Schröppel**, Thomas Brox. *SF2SE3: Clustering Scene Flow into SE(3)-Motions via Proposal and Selection*. German Conference on Pattern Recognition, 2022.

WORKSHOP PAPERS (* denotes equal contribution)

- CVPR 2021 Julia Guerrero-Viu*, Sergio Izquierdo*, **Philipp Schröppel**, Thomas Brox. *Semi-Supervised Disparity Estimation with Deep Feature Reconstruction*. Women in Computer Vision Workshop, 2021.

Teaching & Mentoring

- 2020 - 2021 Saurav Shanu, Master project: *Stixel Prediction with an End-to-end deep Network*.
- 2021 Image Processing (Course Assistant)
- 2021 Julia Guerrero-Viu, Master thesis: *Improving Deep Feature Representations for Self-Supervised Training of Disparity Estimation*.
- 2021 Statistical Pattern Recognition (Course Assistant)
- 2021 - 2022 Saurav Shanu, Master thesis: *Monocular 3D Object Detection and Bird's Eye View Generation in Driving Scenarios*.
- 2021 - 2022 Leonhard Sommer, Master thesis: *From Pixel Matching to Dynamic Rigid Objects*.

Languages

- German** Deutsch ist meine Muttersprache (*Native language*).
- English** I am highly proficient in spoken and written English (*C1*).
- French** Je suis bien capable de survivre dans la vie quotidienne (*B1 - B2*).
- Italian** Anche parlo un po' di italiano (*A1*).

Skills

- Programming** Python, PyTorch, Numpy, Tensorflow, C++, C, Java, Haskell, JavaScript, HTML, CSS, PHP, OpenCV, ROS, Eigen
- Knowledge** Computer Vision, Deep Learning, Machine Learning, Robotics (e.g. SLAM, 3D Mapping), 3D sensors, Software engineering
- Miscellaneous** Linux administration, Git, \LaTeX , Android app development, SVN

Activities

- Sports** Preferably, I spend my free time outdoors and in company of my friends. We often go climbing, as much as possible outdoors, but also indoors in a climbing gym. Apart from climbing, I like running and cycling and go ski touring whenever I have the possibility to go to the Alps.
- Travelling** All of this works well with my favour for travelling. Doing so, I like to live and move by simple means, for example with bike and tent.
- Friends** On more quiet days, I also like to stay at home and read a book, or to meet friends and do something together that does not necessarily have to involve anything sports-related.