Patricia **Gschoßmann**

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Education

University of Tübingen — *Tübingen, DE*

Ph.D., Computer Science — *June 2024 - Present*

- Advisor: Prof. Andreas Geiger
- Scholarship: International Max Planck Research School for Intelligent Systems
- Research interests: 3D reconstruction

Technical University of Munich — *Munich, DE*

M.Sc., Computer Science — *Apr. 2020 - Dec. 2022*

- GPA: 1.3/1.0
- Master's thesis: "Exploiting Spatial-Temporal Relationships for Occlusion-Robust 3D Human Pose Estimation" (Grade: 1.0)
- Majors: Computer vision, Machine learning

Ludwig Maximilian University of Munich — *Munich, DE*

B.Sc., Computer Science — *Oct. 2016 - Apr. 2020*

- GPA: 1.19/1.0
- Bachelor's thesis: "Learning to Play Pommerman with Emergent Communication" (Grade: 1.0)
- Minor in Business Administration

Work Experience

BMW AG — *Munich, DE*

Computer Vision and Deep Learning Intern for Augmented Reality — *May 2023 - Dec. 2023*

- Trained and evaluated state-of-the-art 2D object detection algorithms (YOLOv8, Realtime Detection Transformer) on custom data using PyTorch
- Implemented an automated data annotation pipeline to generate real-world datasets for 2D object detection and 6D object pose estimation

munevo GmbH — *Munich, DE*

Interdisciplinary Project Intern — *May 2021 - Oct. 2021*

- Implemented an ML-based voice control system for Google Glass in English, German, Dutch and French using VOSK and Apache OpenNLP
- Documented the quality, safety and effectiveness of the service according to the Medical Device Regulation

Ludwig Maximilian University of Munich — *Munich, DE*

Student Assistant — *Oct. 2019 - Feb. 2020*

- Tutor for the lecture "Database Systems 1" at the chair of database systems and data mining

Quartett mobile GmbH — *Munich, DE*

Working Student — *May 2018 - Jul. 2019*

- Contributed to the development of an Android application in Java

Projects

Master's thesis, 3D Human Pose Estimation — *2022*

- Utilized graph convolutional networks, vision transformer and data augmentation to develop a novel deep learning approach for occlusion-robust 2D-to-3D human pose estimation with PyTorch and Human3.6M dataset

Practical course, Learning for Self-Driving Cars and Intelligent Systems — *2021*

- Implemented state-of-the-art DL approaches with PyTorch Lightning and CARLA (autoencoder for RGB and depth images, convolutional neural networks for steering angle prediction, graph convolutional networks for 3D semantic segmentation of point clouds)
- Implemented a novel filter pruning algorithm for structured pruning without the need for fine-tuning

Group project work, 3D Scanning & Motion Capture — *2021*

- Developed an interactive application for mesh deformation in C++ following the "As-rigid-as-possible" editing scheme

Bachelor's thesis, Reinforcement Learning — *2020*

- Applied deep recurrent Q-learning to train a team of two agents for the partially observable multi-agent domain Pommerman with PyTorch and OpenAI Gym

Publications

Occlusion Robust 3D Human Pose Estimation with StridedPoseGraphFormer and Data Augmentation

Soubarna Banik, Patricia Gschoßmann, Alejandro Mendoza Garcia, Alois Knoll

IEEE International Joint Conference on Neural Networks, 2023

Qualifications

Programming	Python, Java
Frameworks & libraries	PyTorch, PyTorch Lightning
Software & tools	Git, Linux (Arch, Manjaro, Ubuntu), LaTeX
Languages	German (native), English (fluent), Portuguese (basic)