

# Haobin Tan

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## Education

### Karlsruhe Institute of Technology (KIT)

M.Sc. in Computer Science

- Focus: Artificial Intelligence
- Current grade: 1.7/1.0 (German Grading System)

Karlsruhe, Germany

Apr. 2019 - Currently

### Karlsruhe Institute of Technology (KIT)

B.Sc. in Computer Science

- Focus: Robotics and Automation, Software Engineering

Karlsruhe, Germany

Oct. 2014 - Apr. 2019

## Work Experience

### abas Software GmbH

Working Student

- Development of cloud-based Document Management System (DMS) using Polymer, Vue.js, TypeScript, JavaScript, and Amazon Web Services
- Creation of automated tests with Jest and Cypress
- Close collaboration in an internationally distributed Scrum team

Karlsruhe, Germany

Jun. 2018 - Jan. 2020

## Practical Experience

### KIT, CV:HCI Lab

Walkable Path Discovery Utilizing Drones

- Development of “flying guide dog” prototype for visually impaired assistance based on DJI drones and semantic segmentation using Python
- Training of segmentation models and traffic lights classification models using PyTorch
- Design of drone self-control algorithm
- Creation of “Pedestrian and Vehicle Traffic Lights (PVTL)” dataset for traffic lights recognition
- Design and organization of experiments and NASA Task Load Index (NASA-TLX) user study

Karlsruhe, Germany

Apr. 2021 - Aug. 2021

### KIT, Interactive Systems Lab (ISL)

Hand Gesture Recognition

- Development of hand gesture recognition application using Python
- Building and training of neural networks using PyTorch
- Dataset preprocessing and data augmentation using Albumentations

Karlsruhe, Germany

Nov. 2020 - Mar. 2021

### KIT, Vision and Fusion Laboratory

Real-World Person Detection on Jetson GPU

- Training of Single-Stage Detectors (YOLO, RetinaNet, SSD)
- Deployment of end-to-end person detection pipeline on Nvidia Jetson devices
- Performance analysis and optimization using Nvidia Nsight

Karlsruhe, Germany

Nov. 2020 - Feb. 2021

## Publications

### Flying Guide Dog: Walkable Path Discovery for the Visually Impaired Utilizing Drones and Transformer-based Semantic Segmentation

2021 IEEE International Conference on Robotics and Biomimetics

2021

Haobin Tan, Chang Chen, Xinyu Luo, Jiaming Zhang, Constantin Seibold, Kailun Yang, Rainer Stiefelhagen

## Accomplishments

2021 “AiTalents 2020” Entrepreneur Education Program, TechQuartier

Remote

2018 Winner of “Industry 4.0 & AR”-Challenge, Continental #Fiction2Science Hackathon

Mainz, Germany

## Skills

Programming	Python, Java, JavaScript, TypeScript, C#, C, LaTeX, Markdown, Linux
Artificial Intelligence	PyTorch, MMCV, NumPy, Pandas, Matplotlib, Plotly
Tools	VS Code, Git, Jupyter, Docker
Languages	Chinese (Native), Cantonese (Native), English (Proficient), German (Proficient)