

YINQIANG ZHANG

Grasmeierstrasse 25, 80805 Munich

◇ Telephone: (49)15223648010 ◇ Email: yinqiang.zhang@tum.de

◇ Google Scholar: <https://scholar.google.com/citations?user=qxNq7PQAAAAJ>

EDUCATION

- **Technical University of Munich, Munich, Germany** 2018.10 - now
M.Sc in Mechatronics and Information Technology
 - GPA Overall: 1.7/1.0(*best grade*)
 - **Semester thesis:**
Title: Computer Assisted Segmentation of Bones Using a Bone Model
Supervisor: Prof. Dr. Tim C. L  th (Director of MiMed), Alexandra Mercader (M. Sc.)
- **Tongji University, Shanghai, China** 2013.09 - 2018.06
B.Eng. in Mechanical Engineering
 - GPA Overall: 4.64/5.0(*best grade*) (equivalent to 91.4/100)
 - **Bachelor thesis:**
Title: Visual Object Tracking of Unmanned Aerial Vehicle using Correlation Filter.
Supervisor: Prof. Dr. Changhong Fu (Director of Vision4Robotics Group)

RESEARCH INTERESTS

- Aerial Robotics, Machine Learning, Visual Tracking

PUBLICATION

Publications

- Yiming Li, Changhong Fu*, Ziyuan Huang, **Yinqiang Zhang**, Jia Pan. *Intermittent Contextual Learning for Keyfilter-Aware UAV Object Tracking Using Deep Convolutional Feature*, IEEE Transactions on Multimedia, 2019. (*JCR Q1, IF = 5.452*)
- Yiming Li, Changhong Fu*, Ziyuan Huang, **Yinqiang Zhang**, Jia Pan. *Keyfilter-Aware Real-Time UAV Object Tracking*, in IEEE International Conference on Robotics and Automation (**ICRA'20**).
- Changhong Fu*, **Yinqiang Zhang**, Ziyuan Huang, Ran Duan, Zongwu Xie. *Part-Based Background-Aware Tracking for UAV with Convolutional Features*, IEEE Access, 2019. (*JCR Q1, IF = 4.098*)
- Changhong Fu*, **Yinqiang Zhang**, Ran Duan, Zongwu Xie. *Robust Scalable Part-Based Visual Tracking for UAV with Background-Aware Correlation Filter*, IEEE International Conference on Robotics and Biomimetics, (**ROBIO'18**) (*Oral presentation*)

Patents

- Mengru Li*, **Yinqiang Zhang**, Nanjie Xu, Mingdong Li, Shuo Liu *An automated candy vending machine*, CN106127958A.

SERVICE

Peer Reviewer: International Journal of Machine Learning and Cybernetics (IJMLC)

Peer Reviewer: IEEE International Conference on Robotics and Biomimetic (ROBIO), 2019

Peer Reviewer: IEEE International Conference on Advanced Robotics and Mechatronics (ARM), 2019

ACTIVITIES AND RESEARCH EXPERIENCES

Medical Image Processing and Computer Assisted Segmentation 2019.12 - now

- Proposed a novel segmentation by registration method, extracted knee model from CT volume.
- Implemented segmentation with MATLAB and the SG-Lib developed by MiMed.
- Assisted in the designs and experiments of bone segmentation methods.

ZHEJIANG Lab Cup AI International Competition 2019.08 - 2019.10

- Designed a multiple object tracking method with a detection-tracking-reidentification framework.
- Combined short and long cues using features from tracking and data association, respectively.
- Incorporated online update mechanism to attune appearance model of Siamese network and implemented MOT framework.

Developing Robust Aerial Tracking Algorithms 2017.10 - now

- Exploited the keyframe technique for mitigating filter corruptions and lowering the redundancy of context learning. Utilized lightweight convolution features to raise the tracking robustness.
- Exploited CNN features and adaptive update mechanism using Gaussian process regression.
- Proposed background-aware using part-based method against partial appearance variation.

ZEAL Eco-Power Racing Vehicle Team 2015.03 - 2017.12

- Equipped Eco-Power car with control and mechatronic systems, managed the team as team leader.
- Applied velocity sensor, dashboard, SD data logger and automatic throttle controller with ARM Cortex-M Microcontroller (programmed with C) and designed PCB board.
- Implemented dashboard software with FreeRTOS embedded operating system.

National and Shanghai Mechanical Innovation Competition in China 2016.03 - 2016.07

- Responsible for the design of an embedded system.
- Designed software to control sensors and actors with CAN bus.
- Completed the communication system between multiple microprocessors.

SELECTED AWARDS

- **10th place** in ZHEJIANG Lab Cup AI Competition (**233 teams**) 2019.10
- **3rd place** in 37th Honda Eco Mileage Challenge, Japan 2017.10
- **1st place** in 36th Honda Eco Mileage Challenge, Japan 2016.10
- **1st prize** in National College Mechanical Innovation Competition 2016.07
- **1st prize** in Tongji Undergraduate Innovation Program 2016.06
- **1st prize** in Shanghai College Mechanical Innovation Competition 2016.05
- **China National Scholarship**, excellent students of Tongji University 2015.03

INTERNSHIP

ETAS GmbH, BOSCH R & D Center Headquarters, Shanghai 2017.11 - 2018.03

- Responsible for customer outreach and support.
- Designed and completed of interactive program (Python) to parse A2L file.
- Tested rapid prototype module for clients, e.g. ES910 and ES900.

KEY SKILLS

- **Language:** English: CET-6; German: TestDaF 19/20(R5/5, L5/5, W4/5, S5/5).
- **Programming:** C/C++, Python, MATLAB.
- **Tools:** Robot Operating System(ROS), LaTeX, Citavi, Autodesk Inventor, Pytorch, Linux.