CHANGJING LIU

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EDUCATION

Shanghai Jiao Tong University (SJTU), Shanghai, China　　　　　　　Sept. 2021 - Mar. 2024
- *M.Sc. in Instrument Science and Technology*　　GPA: 3.54 / 4
- Graduate Outstanding Scholarship at Shanghai Jiao Tong University (Top 10%)

Tongji University, Shanghai, China　　　　　　　　　　　　　　　Sept. 2017 - Jun. 2021
- *B.Eng. in Mechanical Engineering (Specialization: Mechatronics)*　　GPA: 4.56 / 5
- The First Prize Scholarship at Tongji University (Top 5%)

PUBULICATION

- **Changjing Liu**, Zhiwu Wang*, Guozheng Yan, Pingping Jiang, Lichao Wang, Yelin Chen, "Simulation of Artificial Anal Sphincter Motion and Interaction with Intestinal Environment using SOFA", *Artificial Organs*, 2023, 47(11): 1710-1719. (SCI Q3) [paper]
- Changhong Fu*, Xiaoxiao Yang, Fan Li, Juntao Xu, **Changjing Liu**, Peng Lu, "Learning Consistency Pursued Correlation Filters for Real-Time UAV Tracking", *IEEE/RSJ International Conference on Intelligent Robots and Systems* (IROS), 2020 [paper]
- **Changjing Liu**, Pingping Jiang*, Zhiwu Wang, *et al*., "Defecation Perception Reconstruction Based on Attention-LSTM Networks for Artificial Anal Sphincter with Multi-Sensor System", *IEEE Robotics and Automation Letters (RA-L)* (under review).

RESEARCH EXPERIENCES

Medical Precision Engineering and Intelligent System Lab at SJTU　　　Mar. 2022 - Mar. 2024
Researcher, supervised by Prof. Zhiwu Wang and Prof. Guozheng Yan, and collaborated with Ruijin Hospital
- Designed and optimized pressure sensors and embedded software for artificial anal sphincter (AAS) system.
- Proposed a simulation platform of AAS mechanical motion and pressure sensors with intestinal environment using SOFA (framework for medical simulation and robotics), and evaluated it in vitro experiments.
- Proposed a hybird Attention-LSTM network for defecation perception reconstruction
- Submitted PR to solve variable compatibility in SOFA, and became the contributor of SOFA (v22.12).

Vision4Robotics Lab at Tongji Univ.　　　　　　　　　　　　　　Oct. 2019 - Sept. 2020
Research Assistant, supervised by Prof. Changhong Fu
- Researched on correlation filter (CF)-based visual object tracking for drone in complex scenes, and participated in the writing and submission of papers for computer vision conference such as IROS and ECCV.
- Proposed a scale-aware strategy on CF tracking by simultaneously learning discriminative and scale filters, deployed on Sota trackers and evaluated on drone datasets, improving accuracy and ensuring real-time (>30fps).

WORK EXPERIENCES

Huawei Technologies Co., Ltd.　*Autopilot Software Engineer*　　　　　Aug. 2024 - Now
- Development and Optimization of Autonomous Driving Simulation Software.

Huawei Technologies Co., Ltd.　*Autopilot Software Engineer Intern*　　Jul. 2023 - Sept. 2023
- Researched on ROS parsing of autopilot simulation and experimented the parsing complexity and speed.

Fragrant Mountain Microwave Co., Ltd.　*Robot Software Algorithm Intern*　Jul. 2021 - Aug. 2021
- Developed cartesian path decoupling and terminal velocity/acceleration global control on Windows with roslibpy.
- Proposed algorithm on robotic arm for end-effector error estimation, enhancing antenna near-field test accuracy.

SKILLS

- **Knowledge:** Medical Robotics and Simulation, Image and Signal Processing, Machine learning
- **Languages:** Mandarin (Native), English (TOEFL: 94), Japanese (JLPT N2: 116)
- **Development tools：** Linux, Cmake, ROS, PyTorch, PyQt, SOFA Framework, SolidWorks
- **Programming:** C/C++, Python, MATLAB