CHANGJING LIU

Tel: (+86) 18207733168 · E-mail: changjingliu@sjtu.edu.cn

Homepage: changjing-liu.github.io

EDUCATION

Shanghai Jiao Tong University, 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%)

WORK EXPERIENCES

Huawei Technologies Co., Ltd.   *Autopilot Software Engineer Intern*   Jul. 2023 - Sept. 2023
- Researched on ROS parsing of autopilot simulation, and implemented general parser and introspection.
- Developed a ROS parser in autopilot simulation, experimented and analyzed 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.

PROJECT EXPERIENCES

Medical Precision Engineering and Intelligent System Lab, Reseracher   Mar. 2022 - Mar. 2024

Supervisor: Prof. Zhiwu Wang and Prof. Guozheng Yan
- 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 LSTM-Kalman algorithm for defecation perception reconstruction, and used the proposed simulation platform for dataset expansion and model training.
- Submitted PR to solve variable compatibility in SOFA, and became the contributor of SOFA (v22.12).

Vision4Robotics Lab, Research Assistant   Oct. 2019 - Sept. 2020

Supervisor: 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).

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 (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", in *IEEE/RSJ International Conference on Intelligent Robots and Systems* (IROS), 2020 [paper]

SKILLS

- **Knowledge:** Pysical Simulation, Medicial Robotics, Image and Signal Processing, Mechatronics
- **Languages:** Mandarin (Native), English (TOEFL: 82, CET-6: 492), Japanese (JLPT N2: 116)
- **Devlopment tools：** Linux, ROS, PyTorch, PyQt, SOFA Framework, SolidWorks
- **Programming:** C/C++, Python, MATLAB