YONGPENG CAO

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EDUCATION

Beijing University of Chemical Technology, Beijing, China *Sep 2016 - Jun 2020*
B.S. in Mechanical Design, Manufacturing and Automation (ME)
The University of Tokyo, Tokyo, Japan *Sep 2020 - Sep 2022*
M.Eng. in Mechanical Engineering/Yamakawa Laboratory
The University of Tokyo, Tokyo, Japan *Oct 2022 - present*
PhD. in Mechanical Engineering/Yamakawa Laboratory

TECHNICAL SKILLS

Programming: C++, Python, Torch, TensorFlow, MATLAB, R and ROS
Software & Tools: Solidworks, AutoCAD, LaTeX, Multisim, Keil and IAR Workbench
Others: Work with electronics soldering and debug equipment

WORK EXPERIENCE

Jade Bird Fire, Beijing, China *Sep. 2019 - Jan. 2020*
Intern Wireless Technology Department
IoT smoke alarm devices adaptations through RSSI and SNR values analyzing.
The University of Tokyo, Tokyo, Japan *Jun. 2021 - Feb. 2022*
Technical Assistant Ishikawa Group Laboratory
Bimanual Coordination System Development
Using high-speed vision system and force feedback to improve human performance.
The University of Tokyo, Tokyo, Japan *Jun. 2022 - Feb. 2023*
Technical Assistant Ishikawa Group Laboratory
Eye-tracker based Mobile Assistive Sensor System for People with Disabilities.
Sony AI, Tokyo, Japan *Mar. 2023 - Aug. 2023*
Robotics Intern Gastronomy Project
Robot Arm Benchmark and motion planning using ROS and Moveit.

PROJECTS

Outdoor Electromagnetic Off-road Car
Oct. 2018 - Jul. 2019
- A MCU based mini-car, route planning by identifying electromagnetic coils

Visual Based UAV Indoor Localization Algorithm Research (Undergraduate Thesis) *Sep. 2019 - Jun. 2020*
- Using Monocular Camera and IMU module to build the VIO platform for UAV trajectory positioning

Markerless Kendo Motion Prediction Using High-speed Vision System (Master Thesis) *Oct. 2020 - present*
- Utilizing the high-speed vision system and OpenPose library to detect and track the human joints of the trainee.
- Attack segmentation and attack pattern prediction by LSTM method

PUBLICATIONS

Yongpeng Cao and Yuji Yamakawa: Marker-less Kendo Motion Prediction Using High-speed Dual-camera System and LSTM Method, 2022 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM) (Sapporo, 2022.7.12)/Proceedings, pp.159-164 (2022)

Shouren Huang, **Yongpeng Cao**, Kenichi Murakami, Masatoshi Ishikawa, Yuji Yamakawa: Bimanual Coordination Protocol for the Inter-Limb Transmission of Force Feedback, (RSJ2022) (Tokyo, 2022.9.6) Proceedings, 2C1-05 (2022)

LANGUAGE PROFICIENCY

- TOEFL: 101 - Japanese: N2

EXTRA CIRRUCULAR

- International Weekly Elephant Volunteer, Chiang Mai, Thailand *Mar. 2019*
- La Tour de France·Beijing, 81Km Group, China *Oct. 2018*
- Bass and drum-kit player of a school band