DERONG JIN

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EDUCATION

Nanyang Technological University — Singapore
Master of Science — *Aug. 2021 - now*
- School of Electrical and Electronic Engineering.
- Thesis: Clustering-based Unsupervised Domain Adaptive Person Re-identification.

Beihang University — Beijing, China
Bachelor of Engineering (with honors) — *Sept. 2017 - Jun. 2021*
- School of General Engineering; GPA(3.76/4.00, 89.6/100); ranking (7/42).
- Courses: Calculus (99/100), Computer Science and Programming (93/100), Intelligent Robotics (96/100), Automatic Control (100/100), Big Data and Brain-inspired Intelligence (94/100).

University of Tokyo — Tokyo, Japan
Sakura Science Exchange Program — *Aug. 2019 - Sept. 2019*
- Presented the research *"Virtual Reality Modeling Technology Based on Tactile Texture Feedback"* on the poster session of the symposium.

PUBLICATIONS

- *Yi-Jun Li*, **De-Rong Jin* (equal contribution)**, Miao Wang, Jun-Long Chen, Frank Steinicke, Shi-Min Hu and Qinping Zhao.* Detection Thresholds with Joint Horizontal and Vertical Gains in Redirected Jumping. Proceedings of IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR), 95-102, 2021.

- *Yi-Jun Li, Miao Wang, **De-Rong Jin**, Frank Steinicke and Qinping Zhao.* Effects of virtual environment and self-representations on perception and physical performance in redirected jumping. Virtual Reality & Intelligent Hardware, 3(6): 451-469, 2021.

RESEARCH EXPERIENCE

Rapid-Rich Object Search Lab (ROSE@NTU) — Singapore
Dissertation research, supervisor: Prof. Yap-Peng Tan & Dr. Shan Lin — *Sept. 2021 – now*
- Topic: Clustering-based Unsupervised Domain Adaptive Person Re-identification.
- Research on clustering-based domain adaptive person Re-ID from four different perspectives: soft pseudo-labels, camera shift awareness, intermediate domain design and memory bank design.

inDeco Inc., R&D Center — Beijing, China
Algorithm engineering intern — *Apr. 2021 – Jun. 2021*
- Topic: Texture image retrieval.
- Used deep learning model to complete texture image retrieval by extracting texture features, and the source code was used by the company.

Peng Cheng Laboratory — Shenzhen, China
State Key Laboratory of Virtual Reality Technology and Systems — Beijing, China
Research assistant, supervisor: Prof. Miao Wang & Prof. Shimin Hu — *Nov. 2019 - Nov. 2020*
- Topic: Redirected jumping in virtual reality.
- Programmed with Unity3D to create a experimental environment required for the user study.
- Used multiple tools to and analyze the detection thresholds as 2D continuous curves rather than discrete points with simultaneous horizontal and vertical gains in redirected jumping through a novel user study.
- Conducted a comprehensive user study which investigated the effects of virtual environments and self-representations on the perception and physical performance of redirected jumping.
- One paper was accepted by IEEE VR 2021.

Human-Machine Interaction Lab — Beijing, China
Research assistant & Group leader, supervisor: Prof. Yuru Zhang — *Jan. 2019 - Dec. 2020*
- Topic: Virtual reality modeling technology based on tactile texture feedback.
- Designed a simple external device which could generate tactile texture feedback to help users obtain texture feedback with different degrees of thickness.
- Used Unity3D to create a demo virtual environment for the project.
- This project achieved **Excellent Project Award** in the National College Students' Innovation and Entrepreneurship Training Project Competition. (the highest level, rank first in our school.)

Other Projects

- **Electronic and control system design of Eurobot Competition 2021** *Nov. 2020 - Jun. 2021*
  Undergraduate thesis, supervisor: Prof. Abdelkader EL Kamel
  - Designed the whole electronic hardware system and control strategies of an autonomous small robot.
  - Used (programmed) STM32 and Raspberry Pi to serve as slave / master computer of the robot.
  - Employed Python language to program ROS system embedded in the Raspberry Pi, C language to program FreeRTOS system embedded in the STM32.

- **UAV intelligent obstacle avoidance based on deep reinforcement learning** *Dec. 2020*
  Course project, supervisor: Prof. Zhijun Meng
  - Used image information captured by the camera and distance information captured by the range sensor to represent the 'state' of the UAV, and then got the Q values through the neural networks.
  - Adjusted key hyper-parameters such as reward function, learning rate, number of neurons and number of network layers, etc. to train a deep reinforcement learning model that can successfully complete the obstacle avoidance task.

- **Multiple UAV collaborative track navigation based on Q learning** *May 2020*
  Course project, supervisor: Prof. Baochang Zhang
  - Used the knowledge of reinforcement learning, fulfill information sharing and collaboration and the real-time route planning of multiple UAVs based on single UAV route planning.

Honors and Awards

- Excellent Academic Scholarship (Three times, **Top 10%**) — Beihang University *2018-2020*
- Outstanding Student Cadres (**Top 5%**) — Beihang University *2019*
- Excellent Scholarship (**Top 5%**) — Beihang University *2017*
- Excellent Student (**Top 5%**) — Beihang University *2017*

Skills

- Python, pytorch, Unity, MATLAB, SPSS, SolidWorks, AutoCAD, CATIA, ANSYS, LaTex