Derong Jin

Email: derongjin@gmail.com
Homepage: derongjin.github.io

Education

- **Nanyang Technology University** — Singapore
  Master of Science — *Aug. 2021 - now*
  - School of Electrical and Electronic Engineering.
  - Courses: Machine Vision, Generic Algorithms and Machine Learning, Neural and Fuzzy Systems.
- **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).

Publications

- *Yi-Jun Li*,* ***De-Rong Jin* (joint first author)****, 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)** — NTU, Singapore
  Dissertation research, supervisor: Prof. Yap-Peng Tan & Dr. Shan Lin — *Sept. 2021 – now*
  - Topic: Unsupervised Domain Adaptative Person Re-identification.
  - Research on clustering-based domain adaptive person Re-ID from four different views: 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 capstone project, supervisor: Prof. Abdelkader EL Kamel
  - Design of the whole electronic hardware system and control strategies of an autonomous small robot for Eurobot Competition 2021.
  - Used 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

- 2018-2020 Studies Excellent Scholarship of BUAA (Three Times, Top 10%)
- 2019 University-level Outstanding Student Cadres of BUAA (Top 5%)
- 2017 Excellent Scholarship for Freshman of BUAA (Top 5%)
- 2017 School-level Excellent Student (Top 5%)

Skills

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