Derong Jin

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Education

- **Nanyang Technology University** — Singapore
  Master of Science - Computer Control and Automation — *Aug. 2021 - now*
  - School of Electrical and Electronic Engineering (EEE).
  - Courses: Machine Vision, Generic Algorithms and Machine Learning, Neural and Fuzzy Systems.
- **Beihang University** — Beijing, China
  Bachelor of Engineering - Mechanical 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).

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 2021), 95-102, 2021.
- *Yi-Jun Li, Miao Wang,* ***De-Rong Jin****, Frank Steinicke, Shi-Min Hu and Qinping Zhao.* Effects of Virtual Environments and Self-representations on Redirected Jumping. IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (IEEE VRW 2021), 464-465, 2021.

Research Experience

- **Machine Learning and Data Analytics laboratory (MLDA@EEE), NTU** — Singapore
  Postgraduate dissertation project, supervisor: Prof. Tan Yap Peng — *Aug. 2021 – now*
  - Topic: Person Re-Identification.
- **inDeco, R&D Center** — Beijing, China
  Algorithm engineering intern — *Apr. 2021 – Jun. 2021*
  - Topic: Image retrieval and feature extraction.
  - Used modified ResNet model and transfer learning to complete texture image retrieval by extracting texture features.

Peng Cheng Laboratory — Shenzhen, China

- **State Key Laboratory of Virtual Reality Technology and Systems** — Beijing, China
  Research intern, supervisor: Prof. Miao Wang & Prof. Shimin Hu — *Nov. 2019 - Nov. 2020*
  - Topic: Rredirected jumping in virtual reality.
  - Programmed with Unity3D to create a virtual environment for the user study.
  - Used SPSS, MATLAB, and Python to analyze the experimental data, calculate the significance and correlation, fit the function, draw the threshold image, concluded that the detection threshold ranges for horizontal translation gains were significantly smaller in the high-fidelity natural VE than those in the simple VE, while no significant differences in detection thresholds were found among self-representations.
  - Designed a novel user study experiment to acquire valid data for proposing a multidimensional psychometric function fitting approach, concluded that the imperceptible range for one gain varied with the gain of another.
- **Human-Machine Interaction Lab, Beihang University** — Beijing, China
  Research intern, supervisor: Prof. Yuru Zhang — *Jan. 2019 - Dec. 2020*
  - Topic: Virtual reality modeling technology based on tactile texture feedback.
  - Designed a simple external device with generating tactile texture feedback to help users obtain texture feedback with different degrees of thickness and improve the authenticity of user experiences.
  - Created a virtual scene demo design with Unity3D.
  - This project had attented *National College Students' Innovation and Entrepreneurship Training Project*, which finally been awared the Excellent Project. (the highest level, rank first in the faculty)

Other Projects

- **Electronic and Control System Design of Eurobot** — *Nov. 2020 - Jun. 2021*
  Undergraduate capstone project, supervisor: Prof. Abdelkader EL Kamel & Prof. Jingjun Yu
  - Design of the whole electronic hardware system and control strategies of the small robot for Eurobot Competition 2021.
  - Used STM32 and Raspberry Pi to serve as slave / master computer of the robot.
  - Employed Python/C++ language to program ROS system embedded in the Raspberry Pi, C language to program FreeRTOS system embedded in the STM32.
- **Research on Multiple UAV Collaborative Track Navigation Based on Q-Learning** — *May. 2020*
  Course project, supervisor: Prof. Baochang Zhang
  - Applied MATLAB to edit code, set the danger radius and detection range, fulfill information sharing and collaboration and the real-time route planning of multiple UAV based on single UAV route planning.
  - Analysed the influence of information sharing, different initial positions, K-values, and safety distance values on path planning based on Cooperative and Geometric Learning Algorithm (CGLA).
  - Improved the implementation scheme of dual drones, achieving that the two drones successfully got out of the predicament.

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%).

Extracurricular Activities

- Vice President of The Student Union in The School of General Engineering.
- Volunteer of The 1st BUAA International Engineering Education Forum.

Skills

- Python, C#, Unity, MATLAB, SPSS, SolidWorks, AutoCAD, CATIA, ANSYS, LaTex