DERONG JIN

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Education

- **Nanyang Technological University** — Singapore
  Master of Science — *Aug. 2021 - now*
  - School of Electrical and Electronic Engineering (EEE).
  - Thesis: Clustering-based Unsupervised Domain Adaptive Person Re-identification.
  - Supervisor: Prof. Yap-Peng Tan

- **Beihang University (BUAA)** — Beijing, China
  *Bachelor of Engineering (**Excellent Graduate Honors**)* — *Sept. 2017 - Jun. 2021*
  - School of General Engineering; GPA (89.6/100, 3.76/4.00); ranking (7/42).
  - Highlighted 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). Core courses are taught in English.

- **Kogakuin University** — Tokyo, Japan
  Summer Exchange Program — *Aug. 2019 - Sept. 2019*
  - Sakura Science Club Scholarship awardee. Funded by JST.
  - Invited presentation "Virtual Reality Modeling Technology Based on Tactile Texture Feedback" on the symposium's poster session.

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, 8 pages. DOI: https://doi.org/10.1109/VR50410.2021.00030 **(CCF-A)**

- *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, 19 pages. DOI: https://doi.org/10.1016/j.vrih.2021.06.003

Research Experience

- **Clustering-based Unsupervised Domain Adaptive Person Re-ID** — NTU, Singapore
  Research Assistant, Rapid-Rich Object Search (ROSE) Lab @ EEE — *Sept. 2021 – Apr. 2022*
  - Supervisor: Prof. Yap-Peng Tan & Dr. Shan Lin
  - Conducted a comprehensive overview of unsupervised domain adaptive person re-identification from four different perspectives (soft pseudo-labels, camera shift awareness, intermediate domain design, and memory bank design) with an in-depth analysis of their advantages and limitations.
  - Proposed tricks for designing unsupervised domain adaptive algorithms and recommendations for industrial applications.

- **Image-based 3D Shape Retrieval** — Beijing, China
  Algorithm Engineering Intern, inDeco Ltd. R&D Center — *Apr. 2021 – Jul. 2021*
  - Supervisor: Jian-Qiang Dong
  - Researched independently and proposed the core method with the leader: learn a joint embedding space for images and 3D shapes.
  - Built a baseline for the joint embedding space, by designing specific layers for both the query image and multiple rendering views of the 3D shape.

- **Texture Image Retrieval Based on Deep Learning** — Beijing, China
  Algorithm Engineering Intern, inDeco Ltd. R&D Center — *May. 2021 – Jul. 2021*
  - Supervisor: Jian-Qiang Dong
  - Designed and constructed independently an end-to-end baseline for the 2D furniture texture image retrieval task, by using modified ResNet101.
  - Accomplished the furniture retrieval with both high accuracy (nearly 100%) and low time consumption (within 0.3 seconds), which is ready for product launch.

- **Redirected Jumping in Virtual Reality** BUAA, China
  Research Assistant, State Key Laboratory of VR Technology and Systems *Nov. 2019 - Nov. 2020*
  - Supervisor: Prof. Miao Wang & Prof. Shi-Min Hu
  - **Project 1: Detection thresholds with joint horizontal and vertical gains in redirected jumping.**
  - Designed and conducted a novel user study independently to estimate and analyze the detection thresholds of human perception during redirected jumping.
  - Proposed a novel method to estimate and model joint detection thresholds as 2D continuous curves by using two-dimensional psychometric function regression, concluded that the imperceptible range for one gain varied with the gain of another.
  - Co-built VR experiment systems with Unity for the user study.
  - **Project 2: Effects of virtual environments and self-representations on perception and physical performance in redirected jumping.**
  - Used SPSS, MATLAB, Python, and C# to analyze the experimental data, calculate the significance and correlation, draw the threshold image, concluded that the detection threshold ranges for horizontal 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.

- **Virtual Reality Modeling Technology Based on Tactile Texture Feedback** BUAA, China
  Research Assistant & Team Leader, Human-Machine Interaction Lab *Jan. 2019 - Dec. 2020*
  - Supervisor: Prof. Yuru Zhang
  - Designed an external device that could generate tactile texture feedback to help users obtain texture feedback with different degrees of thickness.
  - Designed a novel UI interface and conducted user studies to verify and estimate the results.

Other Projects

- **Electronic and control system design of Eurobot Competition 2021** *Nov. 2020 - Jun. 2021*
  Undergraduate Thesis; [demo video link]
  - Supervisor: Prof. Abdelkader EL Kamel
  - Designed the whole electronic hardware system and control strategies of an autonomous robot.
  - Employed Python language to program ROS system embedded in the Raspberry Pi, C language to program FreeRTOS system embedded in the STM32.

Leadership and Activities

- **Student Union** *Oct. 2019 - Oct. 2020*
  Vice President; School of General Engineering, BUAA
  - Organized students to carry out activities and supervised the internal assessment of the Student Union.
  - Led the student union to win the 2018-2019 excellent student union in the university (3 out of 35).

- **National College Innovative Entrepreneurship Competition** *Jan. 2019 - Dec. 2020*
  Team Leader
  - Responsible for product designing, project promotion, and budget management.

Honors and Awards

- Excellent Project Award (**rank 1st**) — National College Innovative Entrepreneurship Competition *2020*
- Excellent Academic Scholarship (Three times, **Top 10%**) — Beihang University *2018-2020*
- Outstanding Student Cadres (**Top 5%**) — Beihang University *2019*
- Outstanding Freshman Scholarship (**Top 5%**) — Beihang University *2017*
- Excellent Student (**Top 5%**) — Beihang University *2017*

Skills

- **Programming Languages:** Python, Matlab, C#, LATEX
- **Deep Learning**: Pytorch, Tensorflow
- **Others**: Unity, SPSS, Solidworks, AutoCAD
- **Hobbies**: Badminton, Gym, Piano, Swimming, Photography