

# Derong Jin

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## EDUCATION

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- **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); IELTS: 7.
  - 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

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- Yi-Jun Li, **De-Rong Jin** (joint first author), Miao Wang, Jun-Long Chen, Frank Steinicke, Shi-Min Hu and Qinpeng 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 Qinpeng 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

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- **Rapid-Rich Object Search Lab (ROSE@NTU)** Singapore  
*Postgraduate dissertation, supervisor: Prof. Yap-Peng Tan & Dr. Shan Lin* Sept. 2021 - now
  - Topic: Unsupervised Domain Adaptive Person Re-Identification.
  - Now researching on the SOTA algorithms and trying to improve the performance of UDA person reid models.
- **inDeco Inc., R&D Center** Beijing, China  
*Algorithm engineering intern* Apr. 2021 - Jun. 2021
  - Topic: Search by image.
  - 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 an experimental environment required for the user study.
  - Used SPSS, MATLAB, and Python to calculate 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.
  - Two papers were accepted by IEEE VR 2021. (one oral presentation and one poster.)
- **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 had attended National College Students Innovation and Entrepreneurship Training Project, which finally been awarded the **Excellent** Project. (the highest level, rank first in our school.)

## OTHER PROJECTS

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- **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

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- 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

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