Lin Cong

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Gazellenkamp 176, Hamburg, 22527

Education

RA | ***AI & Physics Simulation*** — Mar. 2022 – present
Universität Hamburg (UHH) — Hamburg, Germany

Ph.D. Candidate | ***AI & Physics Simulation*** — Oct. 2017 – Feb. 2022
Universität Hamburg (UHH) — Hamburg, Germany

M.S. | ***Robot Control & Simulation*** — Sep. 2015 – Jun. 2017
Harbin Institute of Technology (HIT) — Harbin, China

B.S. | ***Electronics*** — Sep. 2010 – Jun. 2014
Harbin Institute of Technology (HIT) — Harbin, China

Honors and Awards

Beijing — Aug. 2023
Second Prize for HICOOL 2023 (9/5705 global candidates, landing reward of 1M RMB) — Beijing, China

Munich — Aug. 2023
Second Prize for Innovation & Entrepreneurship International Competition — Munich, Germany

Universität Hamburg — Nov. 2017
Full Scholarship from China Scholarship Council (CSC) — Hamburg, Germany

Harbin Institute of Technology — Jun. 2016
National Scholarship — Harbin, China

Harbin Institute of Technology — Oct. 2015
National Scholarship — Harbin, China

Project Webs

Efficient Human Motion Reconstruction with Physical Consistency
https://hitlyn.github.io/EHMR/

Vision-proprioception Model for Reinforcement Learning
https://hitlyn.github.io/RLVP/

Multimodal Reinforcement Learning in Simulation
https://hitlyn.github.io/MGBRL/

Sim-to-Real Policy Training and Transfer
https://hitlyn.github.io/Pushing/

Self-supervised Attention Mechanism
https://hitlyn.github.io/Attention/

IMU-based Real-time Motion Tracking System
https://hitlyn.github.io/IMUs/

Sim-to-Real Design of a Quadrupedal Robot
https://hitlyn.github.io/Spotmini/

Robot Teleoperation with a VR Headset
https://hitlyn.github.io/Oculus/

SKILLS

Speciality: Physics Engine, Deep Learning, Graphics
Programming: C++, Python, C#
Software: Tensorflow, Pytorch, ROS, Blender, Unity, Unreal, Mujoco, Bullet
Lauguage: Chinese (Mother Tongue), English (Fluency), Deutsch (Basic)

ACADEMIC TRAINING

Simulation Development for Autonomous Driving System Dec. 2022 – Mar. 2023
Tsinghua University Beijing, China

- Multimodal System Integration for Autonomous Driving Simulation
- Human Motion Reconstruction Algorithm Design

Crossmodal Learning and Transfer of Agent Skills from Simulation Oct. 2017 – present
Universität Hamburg Hamburg, Germany

- Perform research and experiments on agent skill learning for TRR169 Crossmodal Learning
- Build simulation environment with Mujoco
- Reinforcement learning algorithm design with Pytorch and Tensorflow
- Sim-to-Real transfer research with domain randomization and adaption
- Model deployment on real robot platforms using ROS

Simulation of Exo-Skeleton Robot and Control Algorithm Design Jul. 2015 – Jul. 2017
Harbin Institute of Technology Harbin, China

- 3D modelling and simulation environment development
- Design the control system and algorithm for the robot
- Follow-up algorithm design in simulation
- Hardware integration and experiments

SELECTED PUBLICATIONS

Lin Cong*, Philipp Ruppe*, Xiang Pan, Yizhou Wang, Norman Hendrich and Jianwei Zhang.
Efficient Human Motion Reconstruction from Monocular Videos with Physical Consistency Loss. *Siggraph Asia* , 2023

Lin Cong, Hongzhuo Liang, Philipp Ruppel, Yunlei Shi, Michael Görner, Norman Hendrich and Jianwei Zhang.
Reinforcement Learning with Vision-Proprioception Model for Robot Planar Pushing. *Frontiers in Neurorobotics*, 2022

Lin Cong* , Hongzhuo Liang*, Norman Hendrich, Shuang Li, Fuchun Sun, Jianwei Zhang.
Multifingered Grasping Based on Multimodal Reinforcement Learning. *IEEE Robotics and Automation Letters (RA-L)*, 2021

Lin Cong, Yunlei Shi, Jianwei Zhang.
Self-supervised Attention Learning for Robot Control. *IEEE International Conference on Robotics and Biomimetics (ROBIO)*, 2021

Lin Cong, Michael Görner, Philipp Ruppel, Hongzhuo Liang, Norman Hendrich, Jianwei Zhang.
Self-Adapting Recurrent Models for Object Pushing from Learning in Simulation. *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2020

Lin Cong, Dongmei Wu, Yi Long, Zhijiang Du, Wei Dong.
Parameter identification based sensitivity amplification control for lower extremity exoskeleton.
International Conference on Artificial Intelligence, Automation and Control Technologies (AIACT), 2017