Huayan Zhang

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Add: 1 Zhanlanguan Road, Xicheng District, Beijing 100044, China

EDUCATION

Beijing University of Civil Engineering and Architecture, Beijing, China

- M.S. in Architecture and Civil Engineering — Sep 2017 – Jun 2020
  - Thesis: Research on Visual SLAM and Motion Planning for Humanoid Robot in Dynamic Environment
  - Adviser: Prof. Lei Zhang
  - Focus: Visual SLAM, Motion Planning, Deep learning, Humanoid Robot
  - Cumulative GPA: 3.64 / 4.0, Integrated Ranking: 1/37

Beijing University of Civil Engineering and Architecture, Beijing, China

- B.S. in Building Electricity and Intelligence — Sep 2013 – Jun 2017
  - Thesis: Attendance Management System for Construction Site Based on Face Identification
  - Focus: Android Application Development, Image Processing
  - Cumulative GPA: 3.28 / 4.00

RESEARCH EXPERIENCE

Shenzhen Institute of Artificial Intelligence and Robotics for Society (AIRS)

- Intern — Jul 2020 – Present
  - Project:
  - Supervisors: Prof.
  - Focus: Visual SLAM in Dynamic Environment

Beijing Key Laboratory of Robot Bionics and Function Research, Beijing University of Civil Engineering and Architecture

- Research Member — Sep 2017 – Dec 2018
  - Project: Research on Interactive and Compliant Control of Mobile Manipulation Force and Attitude Optimizing of Humanoid Robot (National Natural Science Foundation of China under Grant No. 61473027)
  - Supervisors: Prof. Lei Zhang
  - Focus: Humanoid robot control platform, Robot visual location

RESEARCH INTERESTS

- SLAM, Deep Learning and Humanoid Robot

ADDITIONAL INFORMATION

- Patent Application
  - Humanoid Robot Route Planning Method and Device. China Patent No. 201810715045.5.
  - Method and apparatus for attendance checking based on human face recognition. China Patent No. 201711250127.9.
  - Guiding Robot Interaction Control Method and Device. China Patent No. 201711250118.X.
- Software Copyrights
  - Program Demonstration and Control system for Humanoid Robot NAO V1.0. Registration No. 2019SR072064.
  - Guiding Robot System Based on Android V1.0. Registration No. 2017SR403124.
- Certificate
  - Second Level Certificate for National Computer Rank Examination (Python Language)

PUBLICATIONS

JOURNALS

[1] Lei Zhang, Huayan Zhang, Hanting Yang, Gui-Bin Bian, & Wanqing Wu. "Multi–target detection and grasping control for humanoid robot NAO," *International Journal of Adaptive Control and Signal Processing*, vol. 33, no. 7, pp. 1225–1237, 2019.

[2] Lei Zhang, Huayan Zhang, Ning Xiao, Tianwei Zhang, & Gui-Bin Bian. "Gait planning and control method for humanoid robot using improved target positioning ," *SCIENCE CHINA Information Sciences*, vol. 63, no. 7, pp. 170210, 2020.

CONFERENCES

[1] Tianwei Zhang, Huayan Zhang, Yang Li, Yoshihiko Nakamura, & Lei Zhang. "FlowFusion: Dynamic Dense RGB-D SLAM Based on Optical Flow," in *the IEEE International Conference on Robotics and Automation (ICRA)*, Accepted, Paris, France, 2020.

[2] Huayan Zhang, Tianwei Zhang, Yang Li, Lei Zhang, & Wanpeng Wang. "Object Mobility Classification based Visual SLAM in Dynamic Environments," *in the IEEE International Conference on Ubiquitous Robots (UR)*, Kyoto, Japan, 2020.

[3] Huayan Zhang, Tianwei Zhang & Lei Zhang. "Model-based Dynamic Human Tracking and Reconstruction During Dynamic SLAM," *in the 23rd CISM IFToMM Symposium on Robot Design, Dynamics and Control (ROMANSY)*, Sapporo, Japan, 2020.

[4] Huayan Zhang, Lei Zhang, Fei Yuan, Gui-Bin Bian, & Shan Xin. "Target Location and Gait Planning for Humanoid Robot Climbing Stairs ," in *Proceedings of the IEEE International Conference on Advanced Robotics and Mechatronics (ICARM)*, Osaka, Japan, 2019.

[5] Fei Yuan, Lei Zhang, Huayan Zhang, Dezhong Li, & Tianwei Zhang. "Distributed Teleoperation System for Controlling Heterogeneous Robots Based on ROS," in *Proceedings of the IEEE International Conference on Advanced Robotics and its Social Impacts (ARSO)*, Beijing, China, 2019.

[6] Jiayuan Yu, Huiling Liu, & Huayan Zhang. "Research on Detection and Recognition Algorithm of Road Traffic Signs," in *Proceedings of the Chinese Control And Decision Conference (CCDC)*, Nanchang, China, 2019.

AWARDS & SCHOLARSHIPS

- Beijing Outstanding Graduates 2020
- Outstanding Graduate Thesis Award at School Level 2020
- National Scholarship for Postgraduates 2019
- Third-class Scholarship at School Level 2018
- Freshmen Scholarship 2017

LANGUAGES

- English: CET-6
- Japanese: JLPT-N3

SKILLS

- **Coding:** Python, C++
- **Libraries:** OpenCV, PCL, Eigen, PyTorch, ROS