

Yangwei You

CONTACTS

CITIZEN:	Chinese	BIRTH:	November, 1989
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EDUCATION

2014.11-2018.5	University of Genoa, Italy Attached in Italian Institute of Technology Research Line: Humanoids and Human Centered Mechatronics	Ph.D.
2011.08-2013.07	Harbin Institute of Technology, China MEng. in Mechatronic Engineering of State Key Robotics Institute	Master
2007.08-2011.07	Harbin Institute of Technology, China BEng. (Honors) in Mechanical Design, Manufacture and Automation	Bachelor

PROJECTS

<i>Current</i> MAY. 2018	Scientist in Institute for Infocomm Research, Singapore - Locomotion planning and control of legged robots in Italy-Singapore joint project Pholus and another internal funded project ALSAT. - Technical leader of WP3 of Singapore NRP funded project - Semantic and Map-lite Indoor Visual Navigation.
<i>May. 2018</i> NOV. 2014	Whole body locomotion Control for Humanoid WALK-MAN <i>Ph.D. topic</i> Optimization-based high-level motion planning and whole-body humanoid robot (FP7 European project WALK-MAN).
NOV. 2014 JULY 2013	Design Engineer in Sensata Technologiyies Deformation analysis and design of ceramic sensing element of the automotive pressure transducer.
JULY 2013 JULY 2011	Study of Stable Quadruped Trotting Control <i>Master thesis</i> Spring-Loaded Inverted Pendulum (SLIP) model and Virtual Model Control for stable trotting of 3D quadruped robots (national 863 project of China).
OCT. 2012 JUNE 2012	Design of Contact-Resistance Measuring Instrument Design of a delicate fixture and a 3-axis motion platform for automatically measuring the contact resistance between electrical contacts, static contact force control accuracy of ± 5 mN and position control accuracy of 0.1 mm.
JUNE 2011	Software Development for Microwave Oven of Whirlpool Ltd

OCT. 2010	<i>Undergraduate thesis</i> A synthetical control program implemented in STM8 micro-controller for the whole Vitesse2 microwave oven series (Joint R&D project with Whirlpool).
SEPT. 2010	Design of Portable and Multi-functional Rescue Instrument
SEPT. 2009	Winner of <i>national first prize</i> in the 4th national competition of undergraduate mechanical innovative design with “portable and multi-functional rescue instrument”, team leader.

EXPERTISE & SKILLS

ROBOTIC EXPERTISE: Deep Reinforcement Learning, Optimization, Motion Planning, Impedance Control, Dynamics, Kinematics.

PROGRAMMING SKILLS: C, C++, Python, Matlab.

SOFTWARE SKILLS: ROS, GAZEBO, MoveIt!, SolidWorks, ADAMS, ANSYS, Git, ODE.

AWARDS

2015-2018 Ph.D Student Scholarship from Italian Institute of Technology

2011-2013 Postgraduate Scholarship from Harbin Institute of Technology
(first class once, second class once)

2007-2011 People's Scholarship from Harbin Institute of Technology
(first class once, second class 4 times, third class twice)

National First Prize of Undergraduate Mechanical Design Competition

Fuji Xerox Enterprise Scholarship

STX Enterprise Scholarship

Excellent Graduate of Harbin Institute of Technology

PUBLICATION

1. Yangwei You, Samuel Cheong, Tai Peng Chen, Kun Zhang, Cihan Acar, Albertus Hendrawan Adiwhono, and Keng Peng Tee. State estimation for hybrid wheeled-legged robots performing mobile manipulation tasks. In *International Conference on Robotics and Automation (ICRA)*, 2021 (submit)
2. Garen Haddeler, Yangwei You, Saurab Verma, Albertus Hendrawan Adiwhono, and Chee-Meng Chew. Probabilistic traversability mapping using risk and urgency evaluation for reliable and efficient navigation. In *International Conference on Robotics and Automation (ICRA)*, 2021 (submit)
3. Xinyuan Zhao, Yangwei You, Arturo Laurenzi, Navvab Kashiri, and Nikos Tsagarkis. Locomotion adaptation in high payload transportation tasks with the quadruped robot centauro. In *International Conference on Robotics and Automation (ICRA)*, 2021 (submit)
4. Iordanis Chatzinikolaidis, Yangwei You, and Zhibin Li. Locomotion with variable ground contact: An analytically solvable contact model for complementarity-free trajectory optimization. *Robotics and Automation Letters*, 2020.
5. Garen Haddeler, Jianle Chan, Yangwei You, Verma Saurab, Albertus Hendrawan Adiwhono, and Chee-Meng Chew. Explore bravely: Control of wheeled-legged robots traversing in unknown-unstructured environment. In *International Conference on Intelligent Robots and Systems (IROS)*, 2020.
6. Jingyuan Sun, Yangwei You, Xuran Zhao, Albertus Hendrawan Adiwhono, and Chee-Meng Chew. Towards more possibilities: Motion planning and control for hybrid locomotion of wheeled-legged robots. *IEEE Robotics and Automation Letters*, 2020.
7. Yangwei You, Caixia Cai, and Yan Wu. 3d visibility graph based motion planning and control. In *International Conference on Robotics and Artificial Intelligence (ICRAI)*, 2019.
8. Wenchao Gao, Jiawei Ong, Yangwei You, and Zhengguo Li. Asymptotic parallel parking for differential-drive vehicles in presence of static obstacles. In *International Conference on Robotics and Artificial Intelligence (ICRAI)*, 2019.
9. Wenyu Liang, Jiawei Cao, Haozhen Chi, Yangwei You, Fei Chen, and Qinyuan Ren. Design and motion control of antagonistic soft actuators. In *2019 14th IEEE Conference on Industrial Electronics and Applications (ICIEA)*, pages 1617–1622. IEEE, 2019.
10. Songyan Xin, Yangwei You, Chengxu Zhou, Cheng Fang, and Nikos Tsagarakis. A torque-controlled humanoid robot riding on a two-wheeled mobile platform. In *International Conference on Intelligent Robots and Systems (IROS)*, 2017.
11. Yangwei You, Chengxu Zhou, Zhibin Li, and Nikos Tsagarakis. A study of nonlinear forward models for dynamic walking. In *International Conference on Robotics and Automation (ICRA)*, 2017.
12. Yangwei You, Songyan Xin, Chengxu Zhou, and Nikos Tsagarakis. Straight leg walking strategy for torque-controlled humanoid robots. In *International Conference on Robotics and Biomimetics (ROBIO)*, 2016.
13. Yangwei You, Zhibin Li, Darwin Caldwell, and Nikos Tsagarakis. From one-legged hopping to bipedal running and walking: A unified foot placement control based

on regression analysis. In *International Conference on Intelligent Robots and Systems (IROS)*, 2015.

14. Yangwei You, Zhibin Li, Nikos Tsagarakis, and Darwin Caldwell. Foot placement control for bipedal walking on uneven terrain: An online linear regression analysis approach. In *International Conference on Climbing and Walking Robots and Support Technologies for Mobile Machines (CLAWAR)*, 2015.
15. Wei Guo, Yangwei You, Zhenyu Jiang, and Pengfei Wang. Yaw motion control of a quadruped trot. *Machinery & Electronics*, 2013.