史亚鹏

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1992.06.06
https://github.com/yapengshi
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科研背景

教育背景　自 2015 年起，史亚鹏以博士研究生身份入学哈尔滨工业大学机器人研究所. 导师李满天教授. 于 2015 年，史亚鹏获得北京交通大学机械工程学士学位。

研究兴趣　我对优化算法，全身力控和机器学习感兴趣。当前主要研究专注于足式机器人运动规划与运动控制算法的研究。

研究成果

发表论文

1. **Yapeng Shi**, Mantian Li, et al. Force-controlled Compensation Scheme for PQ Valve-controlled Asymmetric Cylinder used on Hydraulic Quadruped Robots. **Journal of Bionic Engineering**, 2020.
2. **Yapeng Shi**, Pengfeng Wang, et al. Mechanical design and force control algorithm for a robot leg with hydraulic series-elastic actuators. **International Journal of Advanced Robotic Systems**, 2020.
3. **Yapeng Shi**, Pengfeng Wang, et al. Model predictive control for motion planning of quadrupedal locomotion. **IEEE International Conference on Advanced Robotics and Mechatronics**, 2019.
4. Pengfeng Wang, **Yapeng Shi**, et al. An analytic solution for the force distribution based on Cartesian compliance models. **International Journal of Advanced Robotic Systems**, 2019.
5. **Yapeng Shi**, Pengfei Wang, Xin Wang, et al. Bio-inspired equilibrium point control scheme for quadrupedal locomotion. **IEEE Transactions on Cognitive and Developmental Systems**, 2018.
6. ShuaiShuai Wang, **Yapeng Shi**, et al. State estimation for quadrupedal using linear inverted pendulum model. **IEEE International Conference on Advanced Robotics and Mechatronics**, 2017.
7. **Yapeng Shi**, Changrong Cai, Wei Guo, et al. Bio-inspired Control Framework for Legged Locomotion. **Dynamic Walking**, 2017.

奖项

1. 最佳会议论文奖, 2017.
2. HRG 最先进机器人论文奖, 2017.
3. 最佳会议论文奖, 2019.

发表专利

1. 四足机器人着地足力分配方法、装置、终端及计算机可读存储介质, CN201910012062.7, 发明.
2. 液压缸对顶实验装置, CN201821813280.8, 实用新型.
3. 一种机器人电机驱动液压动力系统及控制方法, CN201611093517.5, 发明.
4. 一种机器人电机驱动液压动力系统, CN201621304906.3, 实用新型.
5. 泵阀集成流控模块, CN201821826412.0, 实用新型.
6. 承载立柱与悬臂装置, CN201710777588.5, 发明.
7. 承载立柱与悬臂装置, CN201721119345.4, 实用新型.

经历

2019.9 – 2020.9　联合培养博士研究生　AIR 实验室, 爱丁堡大学，英国

2017.3 – 2018.10　研究助理　机器人实验室, 深圳航天科技创新研究院

2016.7 – 2017.2　实习生　深圳航天龙海特智能装备有限公司

特长

编程　C/C++, Python, LaTeX

软件　ROS, Matlab, SolidWorks

Yapeng Shi

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Research

Background I am a Phd student at State Key Laboratory of Robotics and System, Harbin Institute of Technology,(HIT, China) since 2015. Advised by Prof. Mantian Li . I obtained my B.S. degree in Mechanical Engineering from Beijing Jiaotong University in 2015.

Interests I am generally interested in using Optimization, Whole-body Control and Machine Learning techniques to generate complex robot behaviors. My current research focuses on enabling legged robots to traverse complex environments, such as mammals, in a robust and agile manner.

Achievements

Publications

1. **Yapeng Shi**, Mantian Li, et al. Force-controlled Compensation Scheme for PQ Valve-controlled Asymmetric Cylinder used on Hydraulic Quadruped Robots. **Journal of Bionic Engineering**, 2020.
2. **Yapeng Shi**, Pengfeng Wang, et al. Mechanical design and force control algorithm for a robot leg with hydraulic series-elastic actuators. **International Journal of Advanced Robotic Systems**, 2020.
3. **Yapeng Shi**, Pengfeng Wang, et al. Model predictive control for motion planning of quadrupedal locomotion. **IEEE International Conference on Advanced Robotics and Mechatronics**, 2019.
4. Pengfeng Wang, **Yapeng Shi**, et al. An analytic solution for the force distribution based on Cartesian compliance models. **International Journal of Advanced Robotic Systems**, 2019.
5. **Yapeng Shi**, Pengfei Wang, Xin Wang, et al. Bio-inspired equilibrium point control scheme for quadrupedal locomotion. **IEEE Transactions on Cognitive and Developmental Systems**, 2018.
6. ShuaiShuai Wang, **Yapeng Shi**, et al. State estimation for quadrupedal using linear inverted pendulum model. **IEEE International Conference on Advanced Robotics and Mechatronics**, 2017.
7. **Yapeng Shi**, Changrong Cai, Wei Guo, et al. Bio-inspired Control Framework for Legged Locomotion. **Dynamic Walking**, 2017.

Awards

1. Best Conference Paper Award Finalist, 2019.
2. HRG Best Advanced Robotics Paper Award, 2017.
3. Best Conference Paper Award Finalist, 2017

Patents

1. 四足机器人着地足力分配方法、装置、终端及计算机可读存储介质, CN201910012062.7, 发明.
2. 液压缸对顶实验装置, CN201821813280.8, 实用新型.
3. 一种机器人电机驱动液压动力系统及控制方法, CN201611093517.5, 发明.
4. 一种机器人电机驱动液压动力系统, CN201621304906.3, 实用新型.
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7. 承载立柱与悬臂装置, CN201721119345.4, 实用新型.

Experience

2019.9 – 2020.9	Phd Visiting Student	AIR Lab, University of Edinburgh, UK
2017.3 – 2018.10	Research Assistant	Robotics Lab, Shenzhen Academy of Aerospace Technology
2016.7 – 2017.2	Intern	Long-HIT Inc.

Technical Skills

Programming C/C++, Python, LaTeX

Skill ROS, Matlab, SolidWorks