Jeeseop Kim

Contact Information

Email: jeeseop@vt.edu
Personal Website: jeeseop.com

310 Goodwin Hall, Virginia Tech
Blacksburg, VA 24061, USA

Technical skills

Operating Systems: Ubuntu(Linux), ROS
Programming Language: C/C++, Python, MATLAB
Design and Simulation Software: Solidworks, Unigraphics(NX)

Professional Experience

Graduate Research Assistant — Aug. 2019 - Present
Dept. of Mechanical Engineering, Virginia Tech, Blacksburg, USA
Advisor: Prof. Kaveh Akbari Hamed

Graduate Research Assistant — Aug. 2017 - Jul. 2019
Dept. of Mechanical Engineering, Virginia Tech, Blacksburg, USA
Advisor: Prof. Tomonari Furukawa

Graduate Research Assistant — Jan. 2014 - Jul. 2017
Dept. of Transdisciplinary Studies, Seoul National University, South Korea
Advisor: Prof. Jaeheung Park

Undergraduate Research Assistant — Jun. 2013 - Sep. 2013
Dynamic Robotic Systems Lab, Seoul National University, South Korea
Supervisor: Prof. Jaeheung Park

Undergraduate Research Assistant — Mar. 2012 - Feb. 2013
Biorobotics Lab, Seoul National University, South Korea
Supervisor: Prof. Kyu-Jin Cho

Academic History

Ph.D. Candidate in Mechanical Engineering — September 2017 - Expected in 2022
Advisor: Prof. Kaveh Akbari Hamed
Virginia Polytechnic Institute and State University, USA

M.S. in Transdisciplinary Studies (Program in Intelligent Systems) — March, 2017
Advisor: Prof. Jaeheung Park
Seoul National University, South Korea

B.S. in Mechanical and Aerospace Engineering — March, 2014
Seoul National University, South Korea

Teaching Experience

Teaching Assistant
Dept. of Mechanical Engineering, Virginia Tech, Blacksburg, USA
ME5524: Bayesian Robotics
ME5984: Advanced Experimental Robotics

Teaching Assistant
Dept. of Transdisciplinary Studies, Seoul National University, South Korea

493.601: Convergent Robotics Technology
493.611: Dynamics and Control of Robot-Environment Interaction

Journal Articles

Published

[***J*5**] V. R. Kamidi, **J. Kim**, R. T. Fawcett, A. Ames, and K. Akbari Hamed, Distributed Quadratic Programming-Based Nonlinear Controllers for Periodic Gaits on Legged Robots, IEEE Control Systems Letters, Vol. 6, pp. 2509-2514, Apr, 2022.

[***J*4**] **J. Kim**, and K. Akbari Hamed, Cooperative locomotion via supervisory predictive control and distributed nonlinear controllers, ASME Journal of Dynamic Systems, Measurement, and Control, Vol. 144, Issue. 3, pp. 031005-1-031005-15, Mar, 2022.

[***J*3**] R. T. Fawcett, A. Pandala, **J. Kim**, and K. Akbari Hamed, Real-time planning and nonlinear control for quadrupedal locomotion with articulated tails, ASME Journal of Dynamic Systems, Measurement, and Control, Vol. 143, Issue. 7, pp. 071004-1-071004-15, Jul, 2021.

[***J*2**] K. A. Hamed, **J. Kim**, A. Pandala, Quadrupedal locomotion via event-based predictive control and QP-based virtual constraints, IEEE Robotics and Automation Letters, Vol. 5, Issue. 3, pp. 4463-4470, Jul, 2020.

[***J*1**] **J. Kim**, Y. Omori, A. Sifat, and T. Furukawa, Adjustably designed torque controlled humanoid platform, International Journal of Mechanical and Production Engineering, Vol. 7, Issue. 2, pp. 52-57, May, 2019.

Conference Papers

Published

[***C*4**] **J. Kim**, Y. Omori, A. Sifat, and T. Furukawa, Adjustably designed torque controlled humanoid platform, International Conference on Control, Automation, Robotics and Vision Engineering, Washington DC, USA, 21-22 Nov, 2018.

[***C*3**] **J. Kim**, M. Kim, and J. Park, Improvement of humanoid walking control by compensating actuator elasticity, International Conference on Humanoid Robots (ICHR), Cancun, Mexico, 15-17 Nov, 2016.

[***C*2**] J. Jung, **J. Kim**, S. Kim, W. Kwon, S. Na, K. Kim, J. Lee, G. Suh, and J. Park, Application of robot manipulator for cardiopulmonary resuscitation, International Symposium on Experimental Robotics (ISER), Tokyo, Japan, 3-6 Oct, 2016.

[***C*1**] **J. Kim**, M. Kim, and J. Park, Improvement of humanoid gait stability using reduction gear deformation model, The 31st Institute of Control, Robotics and Systems (ICROS), Seoul, Korea, 10-11 Mar, 2016.

Patent

[*P*2-2] **J. Kim**, *et al*, Automatic cardiopulmonary resuscitation device and control method therefor, 2021. No. US11071686B2 (US Patent)

[*P*2-1] **J. Kim**, *et al*, Automatic cardiopulmonary resuscitation device and control method therefor, 2020. No. 108697572B (CN Patent), No. 3409258B1 (EU Patent)

[*P*1] **J. Kim**, *et al*, Apparatus for automatic cardiovascular pulmonary resuscitation, 2016. Korea Patent No.10-2016-0172286.

Honors

Awards

The Best Presentation Award, Institute of Control, Robotics and Systems 2016 — 2016

Darpa Robotics Challenge DRC Finalist 2015
The Best Presentation Award from Bachelor Thesis Presentation, Seoul National University 2012

Graduate Fellowship
Research Assistant Scholarships, Virginia Tech, Blacksburg, USA Jul. 2017 - present
Gwan-ak Scholarship, Seoul National University, Seoul, South Korea Mar. 2014 - Feb. 2015

Undergraduate Fellowship
National Scholarship from Korea Student Aid Foundation, South Korea Mar. 2009 - Feb. 2010

Academic Services

Reviewer
IEEE American Control Conference (ACC) 2022
IEEE International Conference on Robotics and Automation (ICRA) 2020 - 2022
IEEE Conference on Decision and Control (CDC) 2020 - 2022
IEEE International Conference on Intelligent Robots and Systems (IROS) 2021 - 2022

Professional Skills

- Robotics
- Cooperative Robotics
- Robot Locomotion
- Autonomous Robots
- Control Theory
- Nonlinear Control
- Distributed Control
- Hybrid Dynamical Systems
- Multiagent Systems
- Optimization

References available upon request

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