Junhyeok **Ahn**

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Education

University of Texas at Austin — *Austin, Texas, U.S.A*

Ph.D. in Mechanical Engineering — *Aug. 2016 - Present*

- Advisor: Luis Sentis
- GPA:3.95/4.0

Hanyang University — *Seoul, S.Korea*

B.S. in Mechanical Engineering — *Mar. 2010 - Feb. 2016*

- GPA:3.75/4.0

Work Experience

Human Centered Robotics Lab in UT Austin — *Austin, Texas, U.S.A*

Graduate Research Assistant — *Sep. 2017 - PRESENT*

- Design and Control of Draco Humanoid Robot
- Dynamics Model Learning for Control

Apptronik Inc. — *Austin, Texas, U.S.A*

Control & Software Engineer — *Jun. 2017 - Aug. 2017*

- Developed a actuator level poisition, force, and impedance controller and a high-level whole-body control for a humanoid robot.

Dep. of Management Information System — *Austin, Texas, U.S.A*

Teaching Assistant — *Jan. 2017 - May. 2017*

- Assisted teaching materials on Data Mining (MIS 373).

Skills

Programming C/C++, Python, Matlab, Vim
Libraries Tensorflow, DART, mujoco, pyBullet, ZeroMQ
Languages Korean, English

Publications

Journal Articles

Data-Efficient and Safe Learning for Humanoid Locomotion Aided by a Dynamic Balancing Model
J. Ahn, J. Lee, L. Sentis
IEEE Robotics and Automation Letters (2020) pp. 1–1. 2020

Dynamic Locomotion For Passive-Ankle Biped Robots And Humanoids Using Whole-Body Locomotion Control
D. Kim, S. Jorgensen, J. Lee, J. Ahn, J. Luo, L. Sentis
2019

Investigations of a Robotic Test Bed With Viscoelastic Liquid Cooled Actuators
D. Kim, J. Ahn, O. Campbell, N. Paine, L. Sentis
IEEE/ASME Transactions on Mechatronics 23.6 (2018) pp. 2704–2714. 2018

Conference Proceedings

Control of a High Performance Bipedal Robot using Viscoelastic Liquid Cooled Actuators
J. Ahn, D. Kim, S. Bang, N. Paine, L. Sentis
2019 IEEE-RAS 19th International Conference on Humanoid Robots (Humanoids), 2019

Fast Kinodynamic Bipedal Locomotion Planning with Moving Obstacles
J. Ahn, O. Campbell, D. Kim, L. Sentis
2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2018

Computationally-Robust and Efficient Prioritized Whole-Body Controller with Contact Constraints
D. Kim, J. Lee, J. Ahn, O. Campbell, H. Hwang, L. Sentis
2018 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2018

Investigations of viscoelastic liquid cooled actuators applied for dynamic motion control of legged systems
D. Kim, O. Campbell, J. Ahn, L. Sentis, N. Paine

2017 IEEE-RAS 17th International Conference on Humanoid Robotics (Humanoids), 2017

Preprint

Exploring Model Predictive Control to Generate Optimal Control Policies for HRI Dynamical Systems
Steven Jens Jorgensen, Orion Campbell, Travis Llado, Donghyun Kim, Junhyeok Ahn, Luis Sentis
2017

Presentation

Dynamic Walking Conference *Stockholm, Sweden*

Presenter for research *June. 2017*

- Talked about kinodynamic planning for humanoid robot.