Jee-Eun Lee

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Austin, TX, USA

EDUCATION

- **University of Texas at Austin**
  Ph.D. Candidate in Aerospace Engineering
  Advisor: Dr. Luis Sentis
  Ausgust 2019 onwards
- **Seoul National University**
  M.S in Mechanical and Aerospace Engineering
  Advisor: Dr. Frank Chongwoo Park
  August 2012 to August 2014
- **Seoul National University**
  B.S in Mechanical and Aerospace Engineering
  graduated Cum Laude (18th/176) in 3.5 years
  March 2009 to August 2012

EXPERIENCE

- **Samsung Electronics**
  Global Technology Center, Suwon, South Korea
  Robot application developer & robotic arm motion software engineer participated in the development of:
  - Smooth motion velocity profile
  - CP motion
  - Dynamics applied acceleration assign algorithm
  - Singularity avoidance
  - Force control(admittance control)
  - Precise calibration algorithm for robot body
  - Hand-eye calibration algorithm,. etc.

  March 2015 to March 2018

PROJECTS

- **Model Predictive Time-optimal Path Tracking for an Industrial Manipulator**
  UT-Dexterity Inc. joint project
  C++, Python
  2022 onwards
- **Motion and Control Strategy for Magneto: climbing quadruped with electromagnet**
  UT-CSIRO(Australia) joint project
  C++, ROS, TensorFlow
  2020 onwards
- **SLAM for Humanoid Robot**
  Internship project in Dynamic Robotic Systems Lab, Seoul National University with Prof. Jaeheung Park
  C++, ROS
  October 2018 to July 2019
- **Exoskeleton Motion Intention Recognition(ADD project)**
  A Study on Intelligent Intention Estimation of Actuated Lower-Limb Exoskeleton: I classified the motion data using Hidden Markov Model in this project
  Matlab
  January 2014 to June 2014
- **Human-like Motion Generation(Master's thesis)**
  The Role of Attention in the Generation of Human and Robot Arm Motions (with Prof. F. C. Park)
  Matlab
  August 2012 to June 2014

SKILLS

- **Background Knowledge**
  Robot Kinematics, Dynamics, Motion Planning and Optimal Control, Deep Learning, Graph Neural Network, Machine Learning Algorithms for Recognition, Classification and Vision System.

- **Programming Skills**
  Languages: C/C++, Python, MATLAB
  Operating System: Window, Ubuntu, Xenomai
  Open Sources : ROS, Dart(Physics Engine), TensorFlow
  Source Version Control Tools: SVN, Git/GitHub

PUBLICATIONS

- Jee-Eun Lee, Jaemin Lee, Tirthankar Bandyopadhyay, Luis Sentis, "Sample Efficient Dynamics Learning for Symmetrical Legged Robots: Leveraging Physics Invariance and Geometric Symmetries", *ICRA 2023 accepted*

- Jee-Eun Lee, Tirthankar Bandyopadhyay, Luis Sentis, "Adaptive robot climbing with magnetic feet in unknown slippery structure", *Frontiers in Robotics and AI, 2022*

- Shin, Mi; Qian, Hua; Lee, Jee-Eun; Sentis, Luis; Maberti, Silvia, "Consumer product spraying exposure assessment using robotics", Environmental Science Technology, *Under Review*

- Riley Bowyer, Jacob Oestrich, Noa Thouard, James Barker, Jee Eun Lee, Luis Sentis, Tirthankar Bandyopadhyay, "In-Situ Foothold Evaluation for a Magnetic Climbing Robot", Australasian Conference of Robotics and Automation, December 2021

- Jee-Eun Lee and Jaeheung. Park, "Kinematic Parameter Calibration for Humanoid Robot Using Relative Pose Measurement in Walking Motion," 2019 16th International Conference on Ubiquitous Robots (UR), Jeju, Korea (South), 2019, pp. 712-717, doi: 10.1109/URAI.2019.8768785.

- Cheongjae Jang, Jee-eun Lee, Sohee Lee and F. C. Park, "A minimum attention control law for ball catching," Bioinspiration biomimetics, Volume 8608, pp 154-165, 2015, doi:10.1088/1748-3190/10/5/055008

- Cheongjae Jang, Jee-eun Lee, and F. C. Park, "On the Role of Attention in the Control of Human and Robot Movements," in Proc. 16th International Symposium on Robotics, Research, Singapore, 2013.