Junheng Li

✉ junhengl@usc.edu   in Linkedin   𝕘 Google Scholar

Education

2022 – 2025.10	**Ph.D., University of Southern California** in Mechanical Engineering. - Advisor: Prof. Quan Nguyen
2020 – 2021	**M.S., University of Southern California** in Mechanical Engineering.
2016 – 2020	**B.S., Loyola Marymount University** in Mechanical Engineering.

Employment History

2020 –present	**Research Assistant,** Dynamics Robotics and Control Lab, University of Southern California.
Agust 2023 – May 2024	**Teaching Assistant,** Aerospace and Mechanical Engineering, University of Southern California. • AME 451: Linear Control Systems I

Research Experiences

2020 – present	Dynamics Robotics and Control Lab, University of Southern California. • Advisor: Quan Nguyen, Ph.D. • Dynamic humanoid locomotion and loco-manipulation control via MPC. • Project Lead on HECTOR humanoid project https://github.com/DRCL-USC/Hector_Simulation.
2019 – 2020	Schaal's Group, UROP, Loyola Marymount University. • Advisor: Natalie Schaal, Ph.D. • Analyzed and visulized data collected from rate-and-state fault model based earthquake simulations • Debugged and transferred simulation code of rate-and-state fault model based earthquakes.
Summer 2018	SURP, Loyola Marymount University. • Advisor: Pezhman Hassanpour, Ph.D. • Studied and investigated control strategies for linear inverted pendulums • Established controllers via PID control in Arduino platform • Design and built inverted pendulum hardware platform

Research Publications

Preprint

1. J. Li, O. Kolt, and Q. Nguyen, *Continous dynamic bipedal jumping via adaptive-model optimization*, 2024.

2. J. Li, J. Ma, O. Kolt, M. Shah, and Q. Nguyen, *Dynamic loco-manipulation on hector: Humanoid for enhanced control and open-source research*, 2023.

Journal Articles

1. J. Li and Q. Nguyen, "Dynamic walking of bipedal robots on uneven stepping stones via adaptive-frequency mpc," *IEEE Control Systems Letters*, vol. 7, pp. 1279–1284, 2023.

Conference Proceedings

1. J. Li and Q. Nguyen, "Kinodynamic pose optimization for humanoid loco-manipulation," in *2023 IEEE-RAS 22nd International Conference on Humanoid Robots (Humanoids)*, 2023, pp. 1–8.

2. J. Li and Q. Nguyen, "Multi-contact mpc for dynamic loco-manipulation on humanoid robots," in *2023 American Control Conference (ACC)*, 2023.

3. J. Li, J. Ma, and Q. Nguyen, "Balancing control and pose optimization for wheel-legged robots navigating high obstacles," in *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, IEEE, 2022, pp. 8835–8841.

4. J. Li and Q. Nguyen, "Force-and-moment-based model predictive control for achieving highly dynamic locomotion on bipedal robots," in *2021 60th IEEE Conference on Decision and Control (CDC)*, IEEE, 2021, pp. 1024–1030.

Skills

Languages	▉ Strong reading, writing, and communication skills in English and Mandarin Chinese.
Software	▉ MATLAB, Simulink, ROS, SolidWorks, ANSYS …
Misc.	▉ Academic research, teaching, training, consultation.

Reviewer Services

2024	▉ International Journal of Robotics and Automation
2023-2024	▉ Robotics and Autonomous Systems
2022	▉ IEEE/ASME Transactions on Mechatronics
	▉ Autonomous Robots
2022-2024	▉ IEEE International Conference on Robotics and Automation (ICRA)
	▉ IEEE International Conference on Intelligent Robots and Systems (IROS)
2021-2022	▉ IEEE Conference on Decision and Control (CDC)