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– Assistant Professor in Space Robotics

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EDUCATION

- 2018 Oct. – 2021 Sep. **Ph.D. in Aerospace Engineering**, Tohoku University, Japan.
- GPA: 4.0/4.0.
 - Dissertation title: Autonomous Limbed Climbing Robots for Challenging Terrain Exploration
- 2016 Oct. – 2018 Sep. **M.Sc. in Aerospace Engineering**, Tohoku University, Japan.
- GPA: 4.0/4.0.
 - Dissertation title: Gait Planning for a Free-Climbing Robot in Consideration of the Gripping Forces
- 2013 Apr. – 2016 Sep. **B.Sc. in Mechanical & Aerospace Engineering**, Tohoku University, Japan.
- GPA: 3.4/4.0
 - Dissertation title: Performance Evaluation of Time-of-Flight camera for a Lunar Exploration Micro-rover
 - Half Year Academic Acceleration

PROFESSIONAL EXPERIENCE

- 2021 Oct. – **Assistant Professor**, [Space Robotics Lab.](#), Department of Aerospace Engineering, Tohoku University, Japan.
- 2019 – **Paper Reviewer** for IEEE/RSJ IROS, IEEE ICRA, IEEE RA-L, IEEE T-MECH.
- 2019 Apr. – 2021 Sep. **JSPS Research Fellow**, [Space Robotics Lab.](#), Tohoku University, Japan.
- 2019 Oct. – 2020 Sep. **Research Intern**, [Robotic Systems Lab.](#), ETH Zurich, Switzerland.
- 2016 Oct. – 2021 Sep. **Teaching Assistant** for more than five semester classes on Robotics, Control Engineering, Tohoku University, Japan.
- 2017 Jun. – 2018 Mar. **Software Engineer Intern**, Google Lunar XPRIZE participant, HAKUTO/[ispace, inc.](#), Japan.

AWARDS

- 2021 The Highly Commended Paper Award, CLAWAR conference.
- 2020 The Best Presentation Award, The Society of Instrument and Control Engineers (SICE), Tohoku Chapter.
- 2019 The Japan Society of Mechanical Engineering (JSME), Miura Award, Tohoku University.

PUBLICATIONS AND PATENT – [see the Google Scholar Citations](#)

Journals (selected)

- 2021 Analysis of Motion Control for a Quadruped Ground-Gripping Robot for Minor Body Exploration on Uneven Terrain, *Trans. JSASS*.
- 2018 Qualification of a Time-of-Flight Camera as a Hazard Detection and Avoidance Sensor for a Moon Exploration Microrover, *Trans. JSASS*.
- 2018 Preliminary Radiation Test Result for Space-Ready Qualification of Lunar Micro Rover, *Trans. JSASS*.

Conference Proceedings (selected)

- 2022 A Pin-Array Structure for Gripping and Shape Recognition of Convex and Concave Terrain Profile, *Proc. IEEE ROBIO*. (accepted)
- 2022 Low-Reaction Trajectory Generation for a Legged Robot in Microgravity, *Proc. IEEE/SICE SII*.
- 2022 Path and Gait Planning of Limbed Climbing Robots for Planetary Cliff Exploration, *Proc. ISTS*.
- 2022 Lunar Skylight Exploration by a Limbed Climbing Robot Using a Hand-Eye System, *Proc. ISTS*.
- 2021 Simulation-Based Climbing Capability Analysis for Quadrupedal Robots, *Proc. CLAWAR*.
- 2021 Climblab: MATLAB Simulation Platform for Legged Climbing Robotics, *Proc. CLAWAR*.
- 2021 HubRobo: A Lightweight Multi-Limbed Climbing Robot for Exploration in Challenging Terrain, *Proc. IEEE RAS Humanoids*.
- 2020 Non-Periodic Gait Planning Based on Salient Region Detection for a Planetary Cave Exploration Robot, *Proc. i-SAIRAS*.
- 2020 Dynamic Equilibrium of Climbing Robots Based on Stability Polyhedron for Gravito-Inertial Acceleration, *Proc. CLAWAR*.

Patent

- 2022 Patents for Gripping Mechanism, PCT international application: PCT/JP2022/021947

SKILLS

Programming Languages C/C++, Python, MATLAB, Arduino, html

Softwares ROS, Gazebo, SolidWorks, EAGLE, Git, LaTeX