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Personal

Date of Birth: 18/07/1994

Research Interests: Humanoid, Biomimetics, Machine Learning

Education

Project Assistant Professor in Dept. of Mechano-Informatics, The University of University, Japan, JSK Robotics Laboratory, 2022-

Ph.D. in Dept. of Mechano-Informatics, The University of University, Japan, with Prof. Masayuki Inaba (JSK Robotics Laboratory), 2019-2022

M.S. in Dept. of Mechano-Informatics, Graduate School of Information Science and Technology, The University of Tokyo, Japan, 2017-2019

B.S. in Dept. of Mechano-Informatics, Faculty of Engineering, The University of Tokyo, Japan, 2013-2017

Experience

Internship at Preferred Networks, Robotics Engineer, Japan, 2018-2020

Internship at Works Applications Co. Ltd., Software Engineer, Japan, 2016

Internship at Future Standard, Software Engineer, Japan, 2016

Internship at HIOKI, E.E. CORPORATION, Software Engineer, Japan, 2015

Skills

Software Skills

Advanced: C, C++, Python, Machine Learning, Algorithms

Intermediate: Ruby, Lisp, Statistics

Basic: Java, JavaScript, Android, Haskell

Hardware Skills

Intermediate: 3D CAD, 3D Printer

Basic: Electorinics, Machining

Publications

Journal Articles (Peer Reviewed)

1. **K. Kawaharazuka**, T. Matsushima, A. Gambardella, J. Guo, C. Paxton, A. Zeng: "Real-World Robot Applications of Foundation Models: A Review", *Advanced Robotics (**AR**)*, vol. 38, no. 18, pp. 1232-1254, 2024, (**The first two authors contributed equally to this work**)

2. N. Kanazawa, **K. Kawaharazuka**, Y. Obinata, K. Okada, M. Inaba: "Real-world cooking robot system from recipes based on food state recognition using foundation models and PDDL", *Advanced Robotics (**AR**)*, vol. 38, no. 18, pp. 1318-1334, 2024

3. **K. Kawaharazuka**, Y. Obinata, N. Kanazawa, N. Tsukamoto, K. Okada, M. Inaba: "Reflex-Based Open-Vocabulary Navigation without Prior Knowledge Using Omnidirectional Camera and Multiple Vision-Language Models", *Advanced Robotics (**AR**)*, vol. 38, no. 18, pp. 1307-1317, 2024

4. S. Wakabayashi, **K. Kawaharazuka**, K. Okada, M. Inaba: "Behavioral Learning of Dish Rinsing and Scrubbing based on Interruptive Direct Teaching Considering Assistance Rate", *Advanced Robotics (**AR**)*, vol. 38, no. 15, pp. 1052-1065, 2024

5. **K. Kawaharazuka**, K. Okada, M. Inaba: "GeMuCo: Generalized Multisensory Correlational Model for Body Schema Learning", *IEEE Robotics and Automation Magazine (**RAM**)*, 2024, (**presented at ICRA2025**)

6. **K. Kawaharazuka**, Y. Obinata, N. Kanazawa, K. Okada, M. Inaba: "Robotic Environmental State Recognition with Pre-Trained Vision-Language Models and Black-Box Optimization", *Advanced Robotics (**AR**)*, vol. 38, no. 18, pp. 1255-1264, 2024

7. **K. Kawaharazuka**, N. Kanazawa, Y. Obinata, K. Okada, M. Inaba: "Continuous Object State Recognition for Cooking Robots Using Pre-Trained Vision-Language Models and Black-box Optimization", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 9, no. 5, pp. 4059-4066, 2024, (**presented at Humanoids2024**)

8. T. Suzuki, M. Bando, **K. Kawaharazuka**, K. Okada, M. Inaba: "SAQIEL: Ultra-Light and Safe Manipulator with Passive 3D Wire Alignment Mechanism", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 9, no. 4, pp. 3720-3727, 2024, (**presented at IROS2024**)

9. **K. Kawaharazuka**, S. Yoshimura, T. Suzuki, K. Okada, M. Inaba: "Design Optimization of Wire Arrangement With Variable Relay Points in Numerical Simulation for Tendon-Driven Robots", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 9, no. 2, pp. 1388-1395, 2024, (**presented at IROS2024**)

10. **K. Kawaharazuka**, K. Okada, M. Inaba: "Deep Predictive Model Learning with Parametric Bias: Handling Modeling Difficulties and Temporal Model Changes", *IEEE Robotics and Automation Magazine (**RAM**)*, vol. 31, no. 4, pp. 81-99, 2023, (**presented at ICRA2023**)

11. **K. Kawaharazuka**, N. Kanazawa, K. Okada, M. Inaba: "Self-Supervised Learning of Visual Servoing for Low-Rigidity Robots Considering Temporal Body Changes", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 7, no. 3, pp. 7881-7887, 2022, **SICE International Young Authors Award (SIYA-IROS2022)**, (**presented at IROS2022**)

12. Y. Omura, **K. Kawaharazuka**, Y. Nagamatsu, Y. Koga, M. Nishiura, Y. Toshimitsu, Y. Asano, K. Okada, K. Kawasaki, M. Inaba: "Human-mimetic binaural ear design and sound source direction estimation for task realization of musculoskeletal humanoids", *Robomech Journal*, vol. 9, no. 17, pp. 1-15, 2022

13. **K. Kawaharazuka**, A. Miki, M. Bando, K. Okada, M. Inaba: "Dynamic Cloth Manipulation Considering Variable Stiffness and Material Change Using Deep Predictive Model With Parametric Bias", *Frontiers in Neurorobotics*, vol. 16, pp. 1-16, 2022

14. **K. Kawaharazuka**, M. Nishiura, Y. Toshimitsu, Y. Omura, Y. Koga, Y. Asano, K. Okada, K. Kawasaki, M. Inaba: "Robust Continuous Motion Strategy Against Muscle Rupture using Online Learning of Redundant Intersensory Networks for Musculoskeletal Humanoids", *Robotics and Autonomous Systems (**RAS**)*, vol. 152, pp. 1-14, 2022

15. **K. Kawaharazuka**, A. Miki, Y. Toshimitsu, K. Okada, M. Inaba: "Adaptive Body Schema Learning System Considering Additional Muscles for Musculoskeletal Humanoids", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 7, no. 2, pp. 3459-3466, 2022, (**presented at ICRA2022**)

16. **K. Kawaharazuka**, K. Okada, M. Inaba: "Adaptive Robotic Tool-Tip Control Learning Considering Online Changes in Grasping State", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 6, no. 3, pp. 5992-5999, 2021, (**presented at IROS2021**)

17. **K. Kawaharazuka**, Y. Kawamura, K. Okada, M. Inaba: "Imitation Learning with Additional Constraints on Motion Style using Parametric Bias", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 6, no. 3, pp. 5897-5904, 2021, (**presented at IROS2021**)

18. Y. Koga, **K. Kawaharazuka**, Y, Toshimitsu, M. Nishiura, Y. Omura, Y. Asano, K. Okada, K. Kawasaki, M. Inaba: "Self-Body Image Acquisition and Posture Generation with Redundancy using Musculoskeletal Humanoid Shoulder Complex for Object Manipulation", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 6, no. 4, pp. 6686-6692, 2021, (**presented at IROS2021**)

19. **K. Kawaharazuka**, M. Nishiura, Y. Koga, Y. Omura, Y. Toshimitsu, Y. Asano, K. Okada, K. Kawasaki, M. Inaba: "Automatic Grouping of Redundant Sensors and Actuators Using Functional and Spatial Connections: Application to Muscle Grouping for Musculoskeletal Humanoids", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 6, no. 2, pp. 1981-1988, 2021, (**presented at ICRA2021**)

20. **K. Kawaharazuka**, K. Tsuzuki, Y. Koga, Y. Omura, T. Makabe, K. Shinjo, M. Onitsuka, Y. Nagamatsu, Y. Asano, K. Okada, K. Kawasaki, M. Inaba: "Toward Autonomous Driving by Musculoskeletal Humanoids: Study of Developed Hardware and Learning-Based Software", *IEEE Robotics and Automation Magazine (**RAM**)*, vol. 27, no. 3, pp. 84-96, 2020, (**presented at ICRA2021**)

21. **K. Kawaharazuka**, K. Tsuzuki, M. Onitsuka, Y. Asano, K. Okada, K. Kawasaki, M. Inaba: "Object Recognition, Dynamic Contact Simulation, Detection, and Control of the Flexible Musculoskeletal Hand Using a Recurrent Neural Network With Parametric Bias", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 5, no. 3, pp. 4580-4587, 2020, (**presented at IROS2020**)

22. **K. Kawaharazuka**, N. Hiraoka, K. Tsuzuki, M. Onitsuka, Y. Asano, K. Okada, K. Kawasaki, M. Inaba: "Estimation and Control of Motor Core Temperature with Online Learning of Thermal Model Parameters: Application to Musculoskeletal Humanoids", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 5, no. 3, pp. 4273-4280, 2020, (**presented at IROS2020**)

23. **K. Kawaharazuka**, K. Tsuzuki, M. Onitsuka, Y. Asano, K. Okada, K. Kawasaki, M. Inaba: "Musculoskeletal AutoEncoder: A Unified Online Acquisition Method of Intersensory Networks for State Estimation, Control, and Simulation of Musculoskeletal Humanoids", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 5, no. 2, pp. 2411-2418, 2020, (**presented at ICRA2020**)

24. **K. Kawaharazuka**, S. Makino, M. Kawamura, S. Nakashima, Y. Asano, K. Okada, M. Inaba: "Human Mimetic Forearm and Hand Design with a Radioulnar Joint and Flexible Machined Spring Finger for Human Skillful Motions", *Journal of Robotics and Mechatronics (**JRM**)*, vol. 32, no. 2, pp. 445-458, 2020, (**The first two authors contributed equally to this work**)

25. **K. Kawaharazuka**, K. Tsuzuki, S. Makino, M. Onitsuka, Y. Asano, K. Okada, K. Kawasaki, M. Inaba: "Long-time Self-body Image Acquisition and its Application to the Control of Musculoskeletal Structures", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 4, no. 3, pp. 2965-2972, 2019, (**presented at IROS2019**)

26. **K. Kawaharazuka**, S. Makino, M. Kawamura, Y. Asano, K. Okada, M. Inaba: "Online Learning of Joint-Muscle Mapping using Vision in Tendon-driven Musculoskeletal Humanoids", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 3, no. 2, pp. 772-779, 2018, (**presented at ICRA2018**)

27. **K. Kawaharazuka**, M. Kawamura, S. Makino, Y. Asano, K. Okada, M. Inaba: "Antagonist Inhibition Control in Redundant Tendon-driven Structures Based on Human Reciprocal Innervation for Wide Range Limb Motion of Musculoskeletal Humanoids", *IEEE Robotics and Automation Letters (**RAL**)*, vol. 2, no. 4, pp. 2119-2126, 2017, (**presented at IROS2017**)

International Conference Proceedings (Peer Reviewed)

1. R. Watanabe, T. Miki, F. Shi, Y. Kadokawa, F. Bjelonic, **K. Kawaharazuka**, A. Cramariuc, M. Hutter: "Learning Quiet Walking for a Small Home Robot", *ICRA2025*, 2025

2. S. Kim, N. Kanazawa, S. Hasegawa, **K. Kawaharazuka**, K. Okada: "Front Hair Styling Robot System Using Path Planning for Root-Centric Strand Adjustment", *2025 IEEE/SICE International Symposium on System Integration (**SII2025**)*, 2025, **Best Student Paper Finalist**

3. **K. Kawaharazuka**, S. Inoue, T. Suzuki, S. Yuzai, S. Sawaguchi, K. Okada, M. Inaba: "MEVIUS: A Quadruped Robot Easily Constructed through E-Commerce with Sheet Metal Welding and Machining", *2024 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2024**)*, pp. 631-636, 2024

4. **K. Kawaharazuka**, Y. Obinata, N. Kanazawa, K. Okada, M. Inaba: "Robotic State Recognition with Image-to-Text Retrieval Task of Pre-Trained Vision-Language Model and Black-Box Optimization", *2024 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2024**)*, pp. 934-940, 2024

5. S. Inoue, **K. Kawaharazuka**, T. Suzuki, S. Yuzaki, Y. Ribayashi, Y. Sahara, K. Okada: "CubiXMusashi: Fusion of Wire-Driven CubiX and Musculoskeletal Humanoid Musashi toward Unlimited Performance", *2024 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2024**)*, pp. 274-279, 2024, **Mike Stillman Award**

6. Y. Iwata, S. Hasegawa, **K. Kawaharazuka**, K. Okada, M. Inaba: "Integrative Wrapping System for a Dual-Arm Humanoid Robot", *2024 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2024**)*, pp. 84-90, 2024, **Kanako Miura Award**

7. Y. Obinata, H. Jia, **K. Kawaharazuka**, N. Kanazawa, K. Okada: "Remote Life Support Robot Interface System for Global Task Planning and Local Action Expansion Using Foundation Models", *2024 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2024**)*, pp. 738-743, 2024

8. S. Sawaguchi, T. Suzuki, A. Miki, **K. Kawaharazuka**, S. Yuzaki, S. Yoshimura, Y. Ribayashi, K. Okada, M. Inaba: "Vlimb: A Wire-Driven Wearable Robot for Bodily Extension, Balancing Powerfulness and Reachability", *2024 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2024**)*, pp. 851-857, 2024

9. Y. Ribayashi, Y. Sahara, S. Sawaguchi, K. Miyama, A. Miki, **K. Kawaharazuka**, K. Okada, M. Inaba: "Fundamental Three-Dimensional Configuration of Wire-Wound Muscle-Tendon Complex Drive", *2024 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2024**)*, pp. 980-987, 2024

10. **K. Kawaharazuka**, K. Okada, M. Inaba: "Robot Design Optimization with Rotational and Prismatic Joints Using Black-Box Multi-Objective Optimization", *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2024**)*, pp. 4571-4577, 2024

11. S. Inoue, **K. Kawaharazuka**, T. Suzuki, S. Yuzaki, K. Okada, M. Inaba: "CubiX: Portable Wire-Driven Parallel Robot Connecting to and Utilizing the Environment", *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2024**)*, pp. 1296-1301, 2024, **SICE International Young Authors Award (SIYA-IROS2024)**, **IEEE RAS Japan Joint Chapter Young Award (2024)**

12. S. Yoshimura, A. Miki, K. Miyama, Y. Sahara, **K. Kawaharazuka**, K. Okada, M. Inaba: "Patterned Structure Muscle : Arbitrary Shaped Wire-Driven Artificial Muscle Utilizing Anisotropic Flexible Structure for Musculoskeletal Robots", *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2024**)*, pp. 13930-13937, 2024, **SICE International Young Authors Award (SIYA-IROS2024)**, **IEEE RAS Japan Joint Chapter Young Award (2024)**

13. Y. Sahara, A. Miki, Y. Ribayashi, S. Yoshimura, **K. Kawaharazuka**, K. Okada, M. Inaba: "Construction of Musculoskeletal Simulation for Shoulder Complex with Ligaments and Its Validation via Model Predictive Control", *2024 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2024**)*, pp. 327-333, 2024

14. **K. Kawaharazuka**, K. Okada, M. Inaba: "Robotic Constrained Imitation Learning for the Peg Transfer Task in Fundamentals of Laparoscopic Surgery", *2024 IEEE International Conference on Robotics and Automation (**ICRA2024**)*, pp. 606-612, 2024

15. **K. Kawaharazuka**, K. Okada, M. Inaba: "Adaptive Whole-body Robotic Tool-use Learning on Low-rigidity Plastic-made Humanoids Using Vision and Tactile Sensors", *2024 IEEE International Conference on Robotics and Automation (**ICRA2024**)*, pp. 583-589, 2024

16. A. Tang, T. Hiraoka, N. Hiraoka, F. Shi, **K. Kawaharazuka**, K. Kojima, K. Okada, M. Inaba: "HumanMimic: Learning Natural Locomotion and Transitions for Humanoid Robot via Wasserstein Adversarial Imitation", *2024 IEEE International Conference on Robotics and Automation (**ICRA2024**)*, pp. 13107-13114, 2024

17. K. Shirai, C. C. Beltran-Hernandez, M. Hamaya, A. Hashimoto, S. Tanaka, **K. Kawaharazuka**, K. Tanaka, Y. Ushiku, S. Mori: "Vision-Language Interpreter for Robot Task Planning", *2024 IEEE International Conference on Robotics and Automation (**ICRA2024**)*, pp. 2051-2058, 2024

18. Open X-Embodiment Collaboration: "Open X-Embodiment: Robotic Learning Datasets and RT-X Models", *2024 IEEE International Conference on Robotics and Automation (**ICRA2024**)*, pp. 6892-6903, 2024, **Best Conference Paper Award**, **Finalists of Best Paper Award in Robot Manipulation**

19. S. Inoue, **K. Kawaharazuka**, K. Okada, M. Inaba: "Body Design and Gait Generation of Chair-Type Asymmetrical Tripedal Low-rigidity Robot", *2024 IEEE International Conference on Soft Robotics (**ROBOSOFT2024**)*, pp. 593-600, 2024

20. A. Miki, Y. Sahara, K. Miyama, Y. Ribayashi, **K. Kawaharazuka**, S. Hasegawa, K. Okada, M. Inaba: "Designing Fluid-Exuding Cartilage for Biomimetic Robots Mimicking Human Joint Lubrication Function", *2024 IEEE International Conference on Soft Robotics (**ROBOSOFT2024**)*, pp. 452-459, 2024

21. **K. Kawaharazuka**, Y. Obinata, N. Kanazawa, K. Okada, M. Inaba: "Robotic Applications of Pre-Trained Vision-Language Models to Various Recognition Behaviors", *2023 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2023**)*, pp. 458-465, 2023

22. **K. Kawaharazuka**, N. Kanazawa, Y. Obinata, K. Okada, M. Inaba: "Daily Assistive View Control Learning of Low-Cost Low-Rigidity Robot via Large-Scale Vision-Language Model", *2023 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2023**)*, pp. 452-457, 2023

23. S. Yoshimura, S. Yuzaki, **K. Kawaharazuka**, K. Okada, M. Inaba: "Optimization of Muscle Arrangement Extraction from Human Waist Structure for Biomimetic Humanoid Implementation", *2023 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2023**)*, pp. 583-590, 2023

24. Y. Ribayashi, K. Miyama, A. Miki, **K. Kawaharazuka**, K. Okada, M. Inaba: "Development of a Wire-Wound Muscle-Tendon Complex Drive and Its Application to a Two-Dimensional Robot Configuration", *2023 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2023**)*, pp. 758-764, 2023

25. S. Yuzaki, A. Miki, M. Bando, S. Yoshimura, T. Suzuki, **K. Kawaharazuka**, K. Okada, M. Inaba: "Fusion of Body and Environment with Movable Carabiners for Wire-Driven Robots Toward Expansion of Physical Capabilities", *2023 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2023**)*, pp. 679-685, 2023

26. **K. Kawaharazuka**, T. Makabe, K. Okada, M. Inaba: "Daily Assistive Modular Robot Design Based on Multi-Objective Black-Box Optimization", *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2023**)*, pp. 9970-9977, 2023

27. Y. Matsuura, **K. Kawaharazuka**, N. Hiraoka, K. Kojima, K. Okada, M. Inaba: "Development of a Whole-Body Work Imitation Learning System by a Biped and Bi-Armed Humanoid", *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2023**)*, pp. 10374-10381, 2023

28. Y. Obinata, **K. Kawaharazuka**, N. Kanazawa, N. Yamaguchi, N. Tsukamoto, I. Yanokura, S. Kitagawa, K. Shinjo, K. Okada, M. Inaba: "Semantic Scene Difference Detection in Daily Life Patroling by Mobile Robots Using Pre-Trained Large-Scale Vision-Language Model", *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2023**)*, pp. 3228-3233, 2023, **IEEE RAS Japan Joint Chapter Young Award (2023)**, **SICE International Young Authors Award (SIYA-IROS2023)**

29. K. Miyama, **K. Kawaharazuka**, K. Okada, M. Inaba: "Development of a Five-Fingerd Biomimetic Soft Robotic Hand by 3D Printing the Skin and Skeleton As One Unit", *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2023**)*, pp. 6624-6630, 2023, **SICE International Young Authors Award (SIYA-IROS2023)**

30. S. Yoshimura, T. Suzuki, M. Bando, S. Yuzaki, **K. Kawaharazuka**, K. Okada, M. Inaba: "Design Method of a Kangaroo Robot with High Power Legs and an Articulated Soft Tail", *2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2023**)*, pp. 6631-6638, 2023

31. A. Ichikura, **K. Kawaharazuka**, Y. Obinata, K. Okada, M. Inaba: "A Method for Selecting Scenes and Emotion-Based Descriptions for a Robot's Diary", *32nd IEEE International Conference on Robot and Human Interactive Communication (**ROMAN2023**)*, pp. 1683-1688, 2023

32. A. Miki, **K. Kawaharazuka**, M. Bando, K. Okada, K. Kawasaki, M. Inaba: "System Architecture and Real-World Task Realization of Musculoskeletal Wheeled Robot Musashi-W with Various Hardware Components", *18th International Conference on Intelligent Autonomous Systems (**IAS2023**)*, pp. 109-122, 2023

33. L. Wu, **K. Kawaharazuka**, S. Hasegawa, K. Okada, M. Inaba: "Workspace-Based Precision Grasp Pose Generator for Multi-Fingered Robotic Hands", *18th International Conference on Intelligent Autonomous Systems (**IAS2023**)*, pp. 379-392, 2023

34. N. Kanazawa, **K. Kawaharazuka**, Y. Obinata, K. Okada, M. Inaba: "Recognition of Heat-Induced Food State Changes by Time-Series Use of Vision-Language Model for Cooking Robot", *18th International Conference on Intelligent Autonomous Systems (**IAS2023**)*, pp. 547-560, 2023

35. A. Ichikura, **K. Kawaharazuka**, Y. Obinata,, K. Shinjo, K. Okada, M. Inaba: "Automatic Diary Generation System Including Information on Joint Experiences between Humans and Robots", *18th International Conference on Intelligent Autonomous Systems (**IAS2023**)*, pp. 399-412, 2023

36. **K. Kawaharazuka**, Y. Obinata, N. Kanazawa, K. Okada, M. Inaba: "VQA-based Robotic State Recognition Optimized with Genetic Algorithm", *2023 IEEE International Conference on Robotics and Automation (**ICRA2023**)*, pp. 8306-8311, 2023

37. H. Sato, **K. Kawaharazuka**, T. Makabe, K. Okada, M. Inaba: "Online Estimation of Self-Body Deflection with Various Sensor Data Based on Directional Statistics", *2023 IEEE/SICE International Symposium on System Integration (**SII2023**)*, pp. 1-8, 2023

38. **K. Kawaharazuka**, A. Miki, M. Bando, T. Suzuki, Y. Ribayashi, Y. Toshimitsu, Y. Nagamatsu, K. Okada, M. Inaba: "Hardware Design and Learning-Based Software Architecture of Musculoskeletal Wheeled Robot Musashi-W for Real-World Applications", *2022 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2022**)*, pp. 413-419, 2022, **Best Interactive Paper Award Finalist**

39. **K. Kawaharazuka**, T. Suzuki, K. Okada, M. Inaba: "Continuous Jumping of a Parallel Wire-Driven Monopedal Robot RAMIEL Using Reinforcement Learning", *2022 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2022**)*, pp. 759-764, 2022

40. **K. Kawaharazuka**, N. Kanazawa, K. Okada, M. Inaba: "Learning-Based Wiping Behavior of Low-Rigidity Robots Considering Various Surface Materials and Task Definitions", *2022 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2022**)*, pp. 919-924, 2022

41. Y. Ribayashi, **K. Kawaharazuka**, Y. Toshimitsu, D. Kusuyama, A. Miki, K. Shinjo, M. Bando, T. Suzuki, Y. Kojio, K. Okada, M. Inaba: "Design of Robot Foot with Outer Edge Measurement Structure and Chair Rotation Motion by Friction Control", *2022 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2022**)*, pp. 314-321, 2022, (**Top 7 Best Oral Paper Presentation**)

42. K. Miyama, S. Hasegawa, **K. Kawaharazuka**, N. Yamaguchi, K. Okada, M. Inaba: "Design of a Five-Fingered Hand with Full-Fingered Tactile Sensors Using Conductive Filaments and Its Application to Bending after Insertion Motion", *2022 IEEE-RAS International Conference on Humanoid Robots (**HUMANOIDS2022**)*, pp. 780-785, 2022

43. **K. Kawaharazuka**, K. Okada, M. Inaba: "Realization of Seated Walk by a Musculoskeletal Humanoid with Buttock-Contact Sensors From Human Constrained Teaching", *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2022**)*, pp. 5774-5780, 2022

44. **K. Kawaharazuka**, K. Okada, M. Inaba: "Online Learning Feedback Control Considering Hysteresis for Musculoskeletal Structures", *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2022**)*, pp. 5767-5773, 2022

45. **K. Kawaharazuka**, Y. Ribayashi, A. Miki, Y. Toshimitsu, T. Suzuki, K. Okada, M. Inaba: "Learning of Balance Controller Considering Changes in Body State for Musculoskeletal Humanoids", *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2022**)*, pp. 5809-5816, 2022

46. Y. Toshimitsu, **K. Kawaharazuka**, A. Miki, K. Okada, M. Inaba: "DIJE: Dense Image Jacobian Estimation for Robust Robotic Self-Recognition and Visual Servoing", *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2022**)*, pp. 2219-2226, 2022

47. Y. Ribayashi, **K. Kawaharazuka**, Y. Toshimitsu, D. Kusuyama, A. Miki, K. Shinjo, M. Bando, T. Suzuki, Y. Kojio, K. Okada, M. Inaba: "Imitation Behavior of the Outer Edge of the Foot by Humanoids Using a Simplified Contact State Representation", *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2022**)*, pp. 4243-4249, 2022

48. T. Suzuki, Y. Toshimitsu, Y. Nagamatsu, **K. Kawaharazuka**, A. Miki, Y. Ribayashi, M. Bando, K. Kojima, Y. Kakiuchi, K. Okada, M. Inaba: "RAMIEL: A Parallel-Wire Driven Monopedal Robot for High and Continuous Jumping", *2022 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2022**)*, pp. 5017-5024, 2022, **SICE International Young Authors Award (SIYA-IROS2022)**

49. **K. Kawaharazuka**, K. Shinjo, Y. Kawamura, K. Okada, M. Inaba: "Environmentally Adaptive Control Including Variance Minimization Using Stochastic Predictive Network with Parametric Bias: Application to Mobile Robots", *2021 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS2021**)*, pp. 8381-8387, 2021

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