

Takafumi MATSUMARU (Waseda Univ.) --- CV

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Professor

Graduate School of Information, Production and Systems (IPS), Waseda University

PERSONAL INFORMATION

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EDUCATION

- Ph.D., Mechanical Engineering, Waseda University (1998).
Concentration: Robot for specialized operation.
Dissertation: "**Research on structure and control of robot for a little space**"
Adviser: Prof. Shigeki Sugano
- M.S., Mechanical Engineering, Waseda University (1987).
Concentration: Force/compliance control for manipulator robot.
Dissertation: "**Basic theory of the multi-DOF compliance control on articulated manipulator**"
Adviser: Prof. Ichiro Kato
- B.S., Mechanical Engineering, Waseda University (1985).
Dissertation: "**Development of human-shaped manipulator aiming at force control**"
Advisor: Prof. Ichiro Kato

EXPERIENCE

- Professor (2010-present)
Waseda University, Kitakyushu, Japan.
 - Research
 - Bio-Robotics and Human-Mechatronics.
 - Lecture class
 - Human-Robot Interaction (master's course).
 - Bioengineering (master's course).
 - Robotics (master's course).
- Associated Professor (1999-2010)
Shizuoka University, Hamamatsu, Japan.
 - Research
 - Bio-Robotics and Human-Mechatronics.
 - Lecture class
 - Applied English (undergraduate course).
 - Safety Engineering (undergraduate course).
 - Bioengineering (undergraduate course).
 - Robotics (undergraduate course).
 - Design Drawing (undergraduate course).
 - Robot and Human (undergraduate course).

- Applied Mechatronics (master's course).
- Applied Robotics (master's course).
- Part-time Professor (2004)
Shizuoka Institute of Science and Technology, Fukuroi, Japan.
- Invited Professor (2003)
LSC (Laboratoire Systemes Complexe) - CNRS, Evry France.
Robotics and Mechatronics.
- Visiting Fellow (2002)
Shizuoka Industrial Research Institute, Shizuoka, Japan.
Robotics and Mechatronics.
- Senior Researcher (1994-1999)
Toshiba Corporation, Kawasaki, Japan.
Robotics and Mechatronics.
- Researcher (1987-1994)
Toshiba Corporation, Kawasaki, Japan.
Robotics and Mechatronics.

AWARDS AND HONORS

- IEEE senior member (2021).

PUBLICATIONS

- Books
 1. Ahmed Farid, Takafumi Matsumaru: "**Pre-robotic Navigation Identification of Pedestrian Crossings and Their Orientations**", In: Genya Ishigami, Kazuya Yoshida (eds): "Field and Service Robotics - Results of the 12th International Conference", Springer Proceedings in Advanced Robotics (SPAR) book series, Vol.16, pp.247-255, Springer Nature Singapore, (2021.01). https://doi.org/10.1007/978-981-15-9460-1_6
https://link.springer.com/chapter/10.1007/978-981-15-9460-1_6
 2. Ahmed Farid, Takafumi Matsumaru: "**Path Planning of Sidewalks & Street Crossings in Pedestrian Environments Using 2D Map Visual Inference**", In: Vigen Arakelian, Philippe Wenger (eds): "ROMANSY 22 - Robot Design, Dynamics and Control", CISM International Centre for Mechanical Sciences (Courses and Lectures), Vol.584, Chapter 32, pp.247-255, Springer, Cham, Switzerland, (2018.05). https://doi.org/10.1007/978-3-319-78963-7_32
https://link.springer.com/chapter/10.1007/978-3-319-78963-7_32
 3. Takafumi Matsumaru: "**Development and Evaluation of Operational Interface Using Touch Screen for Remote Operation of Mobile Robot**", in Calin Ciufudean and Lino Garcia (ed.): "Advances in Robotics - Modeling, Control and Applications", ISBN 978-1-922227-05-8 (Hardcover) 978-1-461108-44-3 (Paperback), pp.195-217, iConcept Press, (2013.03).
 4. Takafumi Matsumaru: "**Design and Evaluation of Throw-over Movement Informing a Receiver of Object Landing Distance**", in Calin Ciufudean and Lino Garcia (ed.): "Advances in Robotics - Modeling, Control and Applications", ISBN 978-1-922227-05-8 (Hardcover) 978-1-461108-44-3 (Paperback), pp.171-194, iConcept Press, (2013.03).
 5. Takafumi Matsumaru: "**Comparison of Displaying with Vocalizing on Preliminary-Announcement of Mobile Robot Upcoming Operation**", in Calin Ciufudean and Lino Garcia (ed.): "Advances in Robotics - Modeling, Control and Applications", ISBN 978-1-922227-05-8 (Hardcover) 978-1-461108-44-3 (Paperback), pp.133-147, iConcept Press, (2013.03).

6. Takafumi Matsumaru: "**Design and Evaluation of Handover Movement Informing Receiver of Weight Load**", in S. Bandyopadhyay, G. Saravana Kumar, et al (Eds.): "Machines and Mechanisms", ISBN 978-81-8487-192-0, pp.545-552, Narosa Publishing House (New Delhi, India), (2011.11).
http://www.narosa.com/books_display.asp?catgcode=978-81-8487-192-0
 7. Takafumi Matsumaru, Shigehisa Suzuki: "**Study on Handover Movement Informing Receiver of Weight Load as Informative Motion of Human-friendly Robot**", in Salvatore Pennacchio (ed.): "Emerging Technologies, Robotics and Control Systems - Third edition", ISBN: 978-88-901928-8-3, pp.120-128, INTERNATIONALSAR (Palermo, Italy, EU), (2009.06).
 8. Takafumi Matsumaru: "**Mobile Robot with Preliminary-announcement and Indication Function of Upcoming Operation just after the Present**", in Salvatore Pennacchio (ed.): "Recent Advances in Control Systems, Robotics and Automation- Third edition Volume 2", ISBN: 978-88-901928-7-6, pp.81-89, INTERNATIONALSAR (Palermo, Italy, EU), (2009.01).
 9. Takafumi Matsumaru: "**Biological Function Engineering**", ISBN: 978-4-501-41750-5, Tokyo Denki University Press (Tokyo, Japan), (2008.10.30). (in Japanese)
<http://www.tdupress.jp/books/isbn978-4-501-41750-5.html>
 10. Takafumi Matsumaru: "**Mobile Robot with Preliminary-Announcement and Indication of Scheduled Route and Occupied Area using Projector**", in Aleksandar Lazinica (ed.): "Mobile Robots Motion Planning, New Challenges", ISBN 978-3-902613-35-6, pp.361-380, I-Tech Education and Publishing (Vienna, Austria, EU), (2008.07). DOI:10.5772/6005
https://www.intechopen.com/books/motion_planning/mobile_robot_with_preliminary-announcement_and_indication_of_scheduled_route_and_occupied_area_using
 11. Takafumi Matsumaru: "**Chapter 4 - Preliminary-Announcement Function of Mobile Robots' Upcoming Operation**", in Xing P. Guo (ed.): "Robotics Research Trends", ISBN: 1-60021-997-7, pp.155-191, Nova Science Publishers (Hauppauge, NY, USA), (2008.05).
 12. Takafumi Matsumaru, Tomotaka Ito: "**Lesson-10 Remote Operation System**", in "Web Learning Plaza: Robotics Learning to Examples", Japan Science and Technology Agency, (2002.03). (in Japanese)
 13. Takafumi Matsumaru: "**Granularity and Scaling in Modularity Design for Manipulator Systems**", in H.Asama, T.Fykuda, T.Arai, I.Endo (Eds.): "Distributed Autonomous Robotic Systems 2", ISBN-10: 4431701907, ISBN-13: 978-4431701903, p.433, Springer-Verlag, (1996.11)
<https://link.springer.com/book/10.1007%2F978-4-431-66942-5>
- Refereed Journal Articles
 1. Takafumi Matsumaru: "**Methods of Generating Emotional Movements and Methods of Transmitting Behavioral Intentions: A Perspective on Human-Coexistence Robots**", Sensors, Vol.22, Issue 12, 4587 (24 pages), (2022.06).
<https://doi.org/10.3390/s22124587>
<https://www.mdpi.com/1424-8220/22/12/4587>
 2. Jingyu Lin, Shuqing Li, Wen Dong, Takafumi Matsumaru, Shengli Xie: "**Long-Arm Three-Dimensional LiDAR for Anticollision and Antisparsity Point Clouds**", IEEE Transactions on Instrumentation and Measurement, Vol.70, 4506610, (10 pages), (2021.08). DOI: 10.1109/TIM.2021.3104019
<https://ieeexplore.ieee.org/document/9511429>
 3. Xin He, Takafumi Matsumaru: "**Estimation of Flat Object Deformation Using RGB-D Sensor for Robot Reproduction**", Sensors, Vol.21, Issue 1, 105 (36 pages), (2020.12). DOI: 10.3390/s21010105
<https://www.mdpi.com/1424-8220/21/1/105>
 4. Takafumi Matsumaru, Ami Morikawa: "**An Object Model and Interaction Method for a Simulated Experience of Pottery on a Potter's Wheel**",

- Sensors, Vol.20, Issue 11, 3091 (23 pages), (2020.05). DOI: 10.3390/s20113091
<https://www.mdpi.com/1424-8220/20/11/3091>
5. Takafumi Matsumaru, Asyifa Imanda Septiana, Kazuki Horiuchi: "**Three-dimensional Aerial Image Interface, 3DAII**", Journal of Robotics and Mechatronics (JRM), Vol.31, No.5, pp.657-670, (2019.10). DOI: 10.20965/jrm.2019.p0657
<https://www.fujipress.jp/jrm/rb/robot003100050657/>
 6. Ahmed Farid, Takafumi Matsumaru: "**Path Planning in Outdoor Pedestrian Settings Using 2D Digital Maps**", Journal of Robotics and Mechatronics (JRM), Vol.31, No.3, pp.464-473, (2019.06). DOI: 10.20965/jrm.2019.p0464
<https://www.fujipress.jp/jrm/rb/robot003100030464/>
 7. Chen Zhu, Takafumi Matsumaru: "**Image Processing for Picking Task of Random Ordered PET Drinking Bottles**", Journal of Robotics, Networking and Artificial Life (JRNAL), Vol.6, Issue 1, pp.38-41, (2019.06). DOI: 10.2991/jrnal.k.190531.008
<https://www.atlantis-press.com/journals/jrnal/125909657/>
 8. Takafumi Matsumaru, Masashi Narita: "**Calligraphy-Stroke Learning Support System Using Projector and Motion Sensor**", Journal of Advanced Computational Intelligence and Intelligent Informatics (JACIII), Vol.21 No.4, pp.697-708, (2017.07). DOI: 10.20965/jaciii.2017.p0697
<https://www.fujipress.jp/jaciii/jc/jacii002100040697/>
 9. Riby Abraham Bobby, Ravi Joshi Prakash, Subir Kumar Saha, Takafumi Matsumaru, Pratyusha Sharma, Siddhartha Jaitly: "**Calibration and Statistical Techniques for Building an Interactive Screen for Learning of Alphabets by Children**", International Journal of Advanced Robotic Systems (IJARS), Vol.14, Issue 3, pp.1-17, (2017.05). DOI: 10.1177/1729881417703939
<http://journals.sagepub.com/doi/full/10.1177/1729881417703939>
 10. Zheng Chai, Takafumi Matsumaru: "**ORB-SHOT SLAM: Trajectory Correction by 3D Loop Closing based on Bag of Visual Words (BoVW) Model for RGB-D Visual SLAM**", Journal of Robotics and Mechatronic (JRM), Vol.29, No.2, pp. 365-380, (2017.04). DOI: 10.20965/jrm.2017.p0365
<https://www.fujipress.jp/jrm/rb/robot002900020365/>
 11. Lixing Zhang, Takafumi Matsumaru: "**Near-field Touch Interface Using Time-of-flight Camera**", Journal of Robotics and Mechatronic (JRM), Vol.28, No.5, pp.759-775, (2016.10). DOI: 10.20965/jrm.2016.p0759
<https://www.fujipress.jp/jrm/rb/robot002800050759/>
 12. Zheng Chai, Takafumi Matsumaru: "**Feature Tracking and Synchronous Scene Generation with a Single Camera**", International Journal of Image, Graphics and Signal Processing (IJIGSP), Vol.8, No.6, pp.1-12, (2016.06). DOI: 10.5815/ijigsp.2016.06.01
<http://www.mecs-press.org/ijigsp/ijigsp-v8-n6/v8n6-1.html>
 13. Jian Zhou, Takafumi Matsumaru: "**Contour-based Binary Image Orientation Detection by Orientation Context and Roulette Distance**", IEICE Transactions on Fundamentals of Electronics, Communications and Computer Sciences, Vol.E99-A, No.2, pp.621-633, (2016.02.01). DOI: 10.1587/transfun.E99.A.621
http://search.ieice.org/bin/summary.php?id=e99-a_2_621
 14. Jianzhao Cai, Takafumi Matsumaru: "**Human Detecting and Following Mobile Robot Using a Laser Range Sensor**", Journal of Robotics and Mechatronics (JRM), Vol.26, No.6, pp.718-734, (2014.12). DOI: 10.20965/jrm.2014.p0718
<https://www.fujipress.jp/jrm/rb/robot002600060718/>

15. Takafumi Matsumaru, Yang Liu, Yi Jiang, Chuankai Dai: "**Image-Projecting Desktop Arm Trainer for Hand-Eye Coordination Training**", Journal of Robotics and Mechatronics (JRM), Vol.26, No.6, pp.704-717, (2014.12). DOI: 10.20965/jrm.2014.p0704
<https://www.fujipress.jp/jrm/rb/robot002600060704/>
16. Shiyang Dong, Takafumi Matsumaru: "**A Walking Training System with Customizable Trajectory Designing**", Paladyn. Journal of Behavioral Robotics, Vol.5, No.1, pp.35-52, (2014.06). DOI:10.2478/pjbr-2014-0003
<https://www.degruyter.com/view/journals/pjbr/5/1/article-000010247820140003.xml>
17. Takafumi Matsumaru, Wataru Saito, Yuichi Ito: "**User-Robot Interaction based on Mobile Robot Step-On Interface**", Transactions of the Virtual Reality Society of Japan, Vol.15, No.3, pp.335-345, (2010.09). (in Japanese) DOI: 10.18974/tvrsj.15.3_335
https://www.jstage.jst.go.jp/article/tvrsj/15/3/15_KJ00007408710/article/
18. Takafumi Matsumaru, Yasutada Horiuchi, Kosuke Akai and Yuichi Ito: "**Truly-Tender-Tailed Tag-Playing Robot Interface Through Friendly Amusing Mobile Function**", Journal of Robotics and Mechatronics (JRM), Vol.22, No.3, pp.301-307, (2010.06). DOI: 10.20965/jrm.2010.p0301
<https://www.fujipress.jp/jrm/rb/robot002200030301/>
19. Takafumi Matsumaru: "**Discrimination of Emotion from Movement and Addition of Emotion in Movement to Improve Personal Affinity of Human-Coexistence Robot**", SICE Journal of Control, Measurement, and System Integration (JCMSI), Vol.2, No.6, pp.365-372, (2009.11). DOI: 10.9746/jcmsi.2.365
https://www.jstage.jst.go.jp/article/jcmsi/2/6/2_6_365/article
20. Takafumi Matsumaru and Kosuke Akai: "**Step-On Interface on Mobile Robot to Operate by Stepping on Projected Button**", The Open Automation and Control Systems Journal, Vol.2, pp.85-95, (2009.11). DOI: 10.2174/1874444300902010085
<http://benthamopen.com/ABSTRACT/TOAUTOCJ-2-85>
21. Takafumi Matsumaru and Shigehisa Suzuki: "**Study on Handover Movement Informing Receiver of Weight Load as Informative Motion of Human-friendly Robot**", International Journal of Factory Automation, Robotics and Soft Computing, Vol.2009, Issue 3, pp.11-19, (2009.07).
22. Takafumi Matsumaru, Hiroshi Yamamori and Takumi Fujita: "**Dynamic Remodeling of Environmental Map using Range Data for Remote Operation of Mobile Robot**", Journal of Robotics and Mechatronics (JRM), Vol.21, No.3, pp.332-341, (2009.06). DOI: 10.20965/jrm.2009.p0332
<https://www.fujipress.jp/jrm/rb/robot002100030332/>
23. Takafumi Matsumaru: "**A Characteristics Measurement of Two-dimensional Range Scanner and its Application**", The Open Automation and Control Systems Journal, Vol.2, pp.21-30, (2009.05). DOI:10.2174/1874444300902010021
<http://benthamopen.com/ABSTRACT/TOAUTOCJ-2-21>
24. Takafumi Matsumaru and Kosuke Akai: "**Functions of Mobile-Robot Step-On Interface**", Journal of Robotics and Mechatronics (JRM), Vol.21, No.2, pp.267-276, (2009.04). DOI: 10.20965/jrm.2009.p0267
<https://www.fujipress.jp/jrm/rb/robot002100020267/>
25. Takafumi Matsumaru: "**Mobile Robot with Preliminary-announcement and Indication Function of Upcoming Operation just after the Present**", International Journal of Factory Automation, Robotics and Soft Computing, Vol.2009, Issue 1, pp.102-110, (2009.01).
26. Takafumi Matsumaru: "**Evaluation Experiment in Simulated Interactive Situation between People and Mobile Robot with Preliminary-Announcement and Indication Function of Upcoming Operation**", Transactions of Human Interface Society, Vol.10, No.1, pp.11-20, (2008.02).

- (in Japanese)
https://www.jstage.jst.go.jp/article/his/10/1/10_11/article/
27. Takafumi Matsumaru: "**Development of Four Kinds of Mobile Robot with Preliminary-Announcement and Indication Function of Upcoming Operation**", Journal of Robotics and Mechatronics (JRM), Vol.19, No.2, pp.148-159, (2007.04). DOI: 10.20965/jrm.2007.p0148
<https://www.fujipress.jp/jrm/rb/robot001900020148/>
 28. Takafumi Matsumaru, Yu Hoshihara, Shinji Hiraiwa, and Yasuhiro Miyata: "**Development of Mobile Robot with Preliminary-announcement and Display Function of Forthcoming Motion using Projection Equipment**", Journal of the Robotics Society in Japan, Vol.25, No.3, pp.410-421, (2007.04). (in Japanese) DOI:10.7210/jrsj.25.410
https://www.jstage.jst.go.jp/article/jrsj1983/25/3/25_3_410/article/
 29. Takafumi Matsumaru, Satoshi Fukuyama, and Tomohiro Sato: "**Model for Analysis of Weight Lifting Motion considering the Abdominal Pressure increased by Valsalva Maneuver**", Transactions of the Japan Society of Mechanical Engineers, Series C, Vol.72, No.724, pp. 3863-3870, (2006.12). (in Japanese) DOI: 10.1299/kikaic.72.3863
https://www.jstage.jst.go.jp/article/kikaic1979/72/724/72_724_3863/article/
 30. Takafumi Matsumaru, Takashi Kusada, and Kazuya Iwase: "**Development of Mobile Robot with Preliminary-announcement and Display Function of Scheduled Course using Light-ray**", Journal of the Robotics Society in Japan, Vol.24, No.8, pp.976-984, (2006.11). (in Japanese) DOI:10.7210/jrsj.24.976
https://www.jstage.jst.go.jp/article/jrsj1983/24/8/24_8_976/article/
 31. Takafumi Matsumaru, Satoshi Fukuyama, Kazuyoshi Shima, and Tomotaka Ito: "**Examination of Lifting Motion with Different Star-on Posture, and Study on the Proper Operation using Minimum Jerk Model**", Transactions of the Japan Society of Mechanical Engineers, Series C, Vol.72, No.720, pp.2554-2561, (2006.08). (in Japanese) DOI: 10.1299/kikaic.72.2554
https://www.jstage.jst.go.jp/article/kikaic1979/72/720/72_720_2554/article/
 32. Takafumi Matsumaru: "**Study on Design of Physique and Motion for Humanoid Robot**", Transactions of the Virtual Reality Society of Japan, Vol.11, No.2, pp.283-292, (2006.06). (in Japanese) DOI: 10.18974/tvrsj.11.2_283
https://www.jstage.jst.go.jp/article/tvrsj/11/2/11_KJ00007498991/article/
 33. Takafumi Matsumaru, Kazuyoshi Shima, Satoshi Fukuyama, Tomotaka Ito: "**Evaluation of Motion and Posture during Lifting Task Operation Using Acceptance Rate**", Transactions of the Society of Instrument and Control Engineers, Series C, Vol.42, No.2, pp.174-182, (2006.02). (in Japanese) DOI: 10.9746/sicetr1965.42.174
https://www.jstage.jst.go.jp/article/sicetr1965/42/2/42_2_174/article/
 34. Takafumi Matsumaru, Kazuya Iwase, Kyohei Akiyama, Takashi Kusada and Tomotaka Ito: "**Mobile Robot with Eyeball Expression as the Preliminary-announcement and Display of the Robot's Following Motion**", Autonomous Robots, Vol.18, No.2, pp.231-246, (2005.03). DOI:10.1007/s10514-005-0728-8
<https://link.springer.com/article/10.1007/s10514-005-0728-8>
 35. Takafumi Matsumaru, Kiyoshi Hagiwara, and Tomotaka Ito: "**Examination on The Combination Control of Manual Operation and Autonomous Motion for Teleoperation of Mobile Robot Using a Software Simulation**", Transactions of the Society of Instrument and Control Engineers, Vol.41, No.2, pp.157-166, (2005.02). (in Japanese) DOI: 10.9746/sicetr1965.41.157
https://www.jstage.jst.go.jp/article/sicetr1965/41/2/41_2_157/article/
 36. Takafumi Matsumaru, Kiyoshi Hagiwara, and Tomotaka Ito: "**Combination Control of Manual Operation and Autonomous Motion for Teleoperation of**

- Mobile Robot: Suitable Autonomous Motion for Situation**", Transactions of the Society of Instrument and Control Engineers, Vol.40, No.9, pp.958-967, (2004.09). (in Japanese) DOI: 10.9746/sicetr1965.40.958
https://www.jstage.jst.go.jp/article/sicetr1965/40/9/40_9_958/article/
37. Takafumi Matsumaru, Shinnosuke Kudo, Hisashi Endo, and Tomotaka Ito: **"Examination on a Software Simulation of the Method and Effect of Preliminary-announcement and Display of Human-friendly Robot's Following Action"**, Transactions of the Society of Instrument and Control Engineers, Vol.40, No.2, pp.189-198, (2004.02). (in Japanese) DOI: 10.9746/sicetr1965.40.189
https://www.jstage.jst.go.jp/article/sicetr1965/40/2/40_2_189/article/
 38. Takafumi Matsumaru, Shun'ichi Kawabata, Tetsuo Kotoku, Nobuto Matsuhira, Kiyoshi Komoriya, Kazuo Tanie, and Kunikatsu Takase: **"Task-based Data Exchange for Teleoperation Through Communication Network"**, Journal of the Robotics Society in Japan, Vol.17, No.8, pp.1114-1125, (1999.11). (in Japanese) DOI: 10.7210/jrsj.17.1114
https://www.jstage.jst.go.jp/article/jrsj1983/17/8/17_8_1114/article/
 39. Takafumi Matsumaru and Nobuto Matsuhira: **"A Study of Configuration Recognition and Workability Judgment Method for Modular Manipulator"**, Journal of the Robotics Society in Japan, Vol.15, No.3, pp.408-416, (1997.04). (in Japanese) DOI:10.7210/jrsj.15.408
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 40. Takafumi Matsumaru: **"Design Disquisition on Modular Robots"**, Journal of Robotics and Mechatronics (JRM), Vol.8, No.5, pp.408-419, (1996.10). DOI: 10.20965/jrm.1996.p0408
<https://www.fujipress.jp/jrm/rb/robot000800050408/>
 41. Takafumi Matsumaru and Nobuto Matsuhira: **"Design and Control of the Modular Manipulator System : TOMMS"**, Journal of the Robotics Society in Japan, Vol.14, No.3, pp.428-435, (1996.04). (in Japanese) DOI: 10.7210/jrsj.14.428
https://www.jstage.jst.go.jp/article/jrsj1983/14/3/14_3_428/article/
 42. Takafumi Matsumaru and Nobuto Matsuhira: **"Remote Operation Method for Manipulators which Control the Pressure Force"**, Journal of the Robotics Society in Japan, Vol.14, No.2, pp.255-262, (1996.03). (in Japanese) DOI: 10.7210/jrsj.14.255
https://www.jstage.jst.go.jp/article/jrsj1983/14/2/14_2_255/article/
 43. Takafumi Matsumaru and Nobuto Matsuhira: **"Development of Windshield Cleaning Robot System"**, Journal of the Robotics Society in Japan, Vol.12, No.5, pp.99-106, (1994.07). (in Japanese) DOI: 10.7210/jrsj.12.743
https://www.jstage.jst.go.jp/article/jrsj1983/12/5/12_5_743/article/
- Refereed Conference and Workshop Proceedings Publications
 1. Xiaohan Ni, Xin He, Takafumi Matsumaru: **"Training a Robotic Arm Movement with Deep Reinforcement Learning"**, 2021 IEEE International Conference on Robotics and Biomimetics (IEEE ROBIO 2021), [Sheraton Hainan, Sanya, China] (27-31 December 2021), pp.595-600, (2021.12). DOI: 10.1109/ROBIO54168.2021.9739340
<https://ieeexplore.ieee.org/document/9739340>
 2. Ruslan Damindarov, C. A. Fam, Riby Abraham Boby, M. Fahim, A. Klimchik, Takafumi Matsumaru: **"A depth camera-based system to enable touch-less interaction using hand gestures"**, 2021 International Conference "Nonlinearity, Information and Robotics" (NIR 2021), [Innopolis, Russian Federation] (26-29 Aug. 2021), 7 pages, (2021.08). DOI: 10.1109/NIR52917.2021.9666090
<https://ieeexplore.ieee.org/document/9666090>
 3. Kaixiang Luan, Takafumi Matsumaru: **"Dynamic Hand Gesture Recognition for Robot Arm Teaching based on Improved LRCN Model"**, 2019 IEEE International Conference on Robotics and Biomimetics (IEEE

- Robio 2019), (2019.12.6-8), [Dali, Yunnan, China], pp.1269-1274, (2019.12). DOI: 10.1109/ROBIO49542.2019.8961787
<https://ieeexplore.ieee.org/document/8961787/>
4. Rajeevlochana G. Chittawadigi, Takafumi Matsumaru, Subir Kumar Saha: "**Intuitive Control of Virtual Robots using Transformed Objects as Multiple Viewports**", 2019 IEEE International Conference on Robotics and Biomimetics (IEEE Robio 2019), [Dali, Yunnan, China], (2019.12.6-8), pp.822-827, (2019.12). DOI: 10.1109/ROBIO49542.2019.8961743
<https://ieeexplore.ieee.org/document/8961743/>
 5. Chen Zhu, Takafumi Matsumaru: "**Brand Recognition with Partial Visible Image in the Bottle Random Picking Task based on Inception V3**", 2019 28th IEEE International Conference on Robot and Human Interactive Communication (IEEE Ro-Man 2019), [New Delhi, India], (14-18 Oct, 2019), pp.1-6 (6pages), (2019.10). DOI: 10.1109/RO-MAN46459.2019.8956374
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