

Ming Ding

Curriculum Vitae

Birthday: 1980.10.9

Sex: Male

Age: 42

Business address:

Tier IV Intelligent Vehicle Design and Development Center
Institutes of Innovation for Future Society
Nagoya University

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Professional interests:

Robotics, Robot Control, Human-Robot Interaction, Autonomouse Driving,
Biomechanics, Human Modeling, Programming&Algorithm, Computer Graphics, ...

Employment:

- **Designated Associate Professor** Nov 2019 ~ (Present)
in Tier IV Intelligent Vehicle Design and Development Center, Institutes of Innovation for Future Society, Nagoya University
- **Visiting Associate Professor** Nov 2019 ~ (Present)
in Robotics Laboratory, Graduate School of Information Science, Nara Institute of Science and Technology, Japan
- **Assistant Professor** May 2015 ~ Oct. 2019
in Robotics Laboratory, Graduate School of Information Science, Nara Institute of Science and Technology, Japan
- **Visitor** Nov. 2017 ~ Oct. 2018
in Robotics Institute, Carnegie Mellon University, USA
- **Designated Assistant Professor** Mar. 2014 ~ Apr. 2015
in Real-World Data Circulation Leaders, Program for Leading Graduate Schools, Nagoya University, Japan
- **Researcher** Oct. 2011 ~ Feb. 2014
in RIKEN-TRI Collaboration Center for Human-Interactive Robot Research, RIKEN, Japan
- **Postdoctoral Researcher** Apr. 2010 ~ Jul. 2011
in Department of Mechanical Engineering, Tokyo University of Science, Japan
- **Student Visitor** Feb. 2009 ~ May. 2009
in Mechanical Engineering, Georgia Institute of Technology, USA

Education:

- **Ph.D degree** in Engineering, Nara Institute of Science and Technology, Japan
Advisor: Professor Tsukasa Ogasawara Apr. 2007 ~ Mar. 2010
- **M.S. degree** in Engineering, Nara Institute of Science and Technology, Japan
Advisor: Professor Tsukasa Ogasawara Apr. 2005 ~ Mar. 2007

- **B.S. degree** in Mechanical Engineering, Osaka Sangyou University, Japan
Advisor: Professor Tomoo Takeguchi Apr. 2003 ~ Mar. 2005
- **B.S. degree** in Mechanical Engineering, East China University of Science and Technology,
China
Advisor: Professor Dajun Lin Oct. 1998 ~ Jun. 2002

Funding

- **Grant-in-Aid for Young Scientists (B) (23700782)** Apr. 2017 ~ Mar. 2019
of Japan Society for the Promotion of Science (JSPS)
for “Feel and Tell the Mind using a Robot Hand that can Measuring and Manipulating the Deformable Object”
- **Grant-in-Aid for Young Scientists (B) (23700782)** Apr. 2011 ~ Mar. 2013
of Japan Society for the Promotion of Science (JSPS)
for “Clarification of the Change of Rotation Axes of Ankle Joint and its Application to Assist System for Fall-prevention”

Awards and scholarships:

- **Best Paper Finalist** Dec. 2012
for “Design and Development of Stewart Platform-Type Assist Device For Ankle-Foot Rehabilitation” (2012 First International Conference on Innovative Engineering Systems (ICIES))
- **Best Paper in Biomimetics Finalist** Dec. 2010
for “Pinpointed Muscle Force Control in Consideration of Human Motion and External Force” (the 2010 IEEE International Conference on Robotics and Biomimetics (ROBIO2010))
- **IEEE Robotics and Automation Society Japan Chapter Outstanding Seed Technology Award** Mar. 2010
for “Pinpoint Muscle Rehabilitation and Training Method” (Robotics Forum 2010)
- **Honors Scholarship** for Privately Financed International Students Apr. 2009 ~ Mar. 2010
- **Research Subsidy from CICP2007** Sep. 2007 ~ Mar. 2008
for “Development of wearable exo-muscle type power-assisting device”
- **FUNAI Foreign Student Scholarship** Apr. 2007 ~ Mar. 2008
- **FUNAI Foreign Student Scholarship** Apr. 2005 ~ Mar. 2006
- **Best Paper Award** Mar. 2005
for graduation thesis: “A study of behavior learning by autonomous mobile robot”
- **Honors Scholarship** for Privately Financed International Students Apr. 2003 ~ Mar. 2005
- **Scholarship** for student of the year (ECUST) 1999, 2000

Publications:

- Journal Papers -

1. **Ming Ding**, Mikihiisa Nagashima, Sung-Gwi Cho, Jun Takamatsu, and Tsukasa Ogasawara, “Control of walking assist exoskeleton with time-delay based on the prediction of plantar force”, *IEEE Access*, vol. 8, pp. 138642–138651, 2020.
2. Tetsuya Kurasumi, Sung-Gwi Cho, **Ming Ding**, Gustavo Alfonso Garcia Ricardez, Masahiro Yoshikawa, Jun Takamatsu, and Tsukasa Ogasawara, “Simultaneous estimation of upper limb pose and joint torque based on upper arm deformation”, *IEEE Transactions on Medical Robotics and Bionics*, vol. 2, no. 3, pp. 2576–3202, 2020.

3. Sung-Gwi Cho, Masahiro Yoshikawa, **Ming Ding**, Jun Takamatsu, and Tsukasa Ogasawara, “Machine-learning-based hand motion recognition system by measuring forearm deformation with a distance sensor array”, *International Journal of Intelligent Robotics and Applications*, vol. 3, no. 4, pp. 418–429, 2019.
4. Lotfi El Hafi, **Ming Ding**, Jun Takamatsu, and Tsukasa Ogasawara, “STARE: Realtime, Wearable, Simultaneous Gaze Tracking and Object Recognition from Eye Images”, *SMPTE Motion Imaging Journal*, Vol. 126, No. 6, pp. 37-46, 2017.
5. Ahmed Asker, Samy F. M. Assal, **Ming Ding**, Jun Takamatsu, Tsukasa Ogasawara and A. M. Mohamed, “Modeling of natural sit-to-stand movement based on minimum jerk criterion for natural-like assistance and rehabilitation”, *Advanced Robotics*, Vol. 31, No. 17, pp. 901-917, 2017.
6. **Ming Ding**, Takamitsu Matsubara, Yoshihito Funaki, Ryojun Ikeura, Toshiharu Mukai and Tsukasa Ogasawara, “Generation of Comfortable Lifting Motion for a Human Transfer Assistant Robot”, *International Journal of Intelligent Robotics and Applications*, pp. 1-12, doi:10.1007/s41315-016-0009-z, 2017.
7. Keishi Ashida, Yoshifumi Morita, Ryojun Ikeura, Kiyoko Yokoyama, **Ming Ding**, and Yuki Mori, “Effective Rocking Motion for Inducing Sleep in Adults - Verification of Effect of Mother’s Embrace and Rocking Motion”, *Journal of Robotics, Networks and Artificial Life*, Vol. 1, No. 4, pp. 285-290, 2015.
8. Yuki Mori, Ryojun Ikeura, and **Ming Ding**, “Estimation of Care Receiver’s Position Based on Tactile Information for Transfer Assist Using Dual Arm Robot”, *Journal of Robotics and Mechatronics*, Vol. 26, No. 6, pp. 743-749, 2014.
9. William Gallagher, **Ming Ding**, Jun Ueda, “Relaxed Individual Control of Skeletal Muscle Forces via Physical Human-robot Interaction”, *Multibody System Dynamics*, DOI 10.1007/s11044-013-9362-y, 2013.
10. **Ming Ding**, Kotaro Hirasawa, Yuichi Kurita, Hiroshi Takemura, Hiroshi Mizoguchi, Jun Takamatsu and Tsukasa Ogasawara, “Pinpointed Muscle Force Control via Optimising Human Motion and External Force”, *International Journal of Mechatronics and Automation*, vol.2, no.3, pp.147-159, 2012.
11. Shinichiro Suzuki, Akira Chaki, Kentaro Sekiguchi, **Ming Ding**, Hiroshi Takemura, and Hiroshi Mizoguchi, “Effect of Reduced Plantar Sensation on Human Gaits on Various Terrains”, *Journal of Robotics and Mechatronics*, vol.23, no.2, pp.258-265, 2011.
12. Jun Ueda, **Ming Ding**, Vijaya Krishnamoorthy, Minoru Shinohara, and Tsukasa Ogasawara, “Individual Muscle Control Using an Exoskeleton Robot for Muscle Function Testing”, *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, vol.18, no.4, pp.339-350, Aug. 2010.
13. **Ming Ding**, Jun Ueda and Tsukasa Ogasawara, “Pinpointed Muscle Force Control Using a Power-assisting Device”, *Journal of the Robotics Society of Japan*, Vol. 27, No. 9, pp. 75-83, 2009 (in Japanese).
14. Shinji Kuriyama, **Ming Ding**, Yuichi Kurita, Jun Ueda and Tsukasa Ogasawara, “Flexible Sensor for McKibben Pneumatic Artificial Muscle”, *International Journal of Automation Technology*, Vol. 3, No. 6, pp. 713-740, 2009.
15. Tsukasa Ogasawara, **Ming Ding** and Jun Ueda, “[Tutorial] Development of Movement Function Assist Device and Muscle Force Control During Movements”, *Science and Industry*, Vol. 83, No. 10, pp. 9–17, 2009 (in Japanese).

- Book Chapters -

1. Jun Ueda and **Ming Ding**, “Individual Control of Redundant Skeletal Muscles using an Exoskeleton Robot”, *Redundancy in Robot Manipulators and Multi-Robot Systems, Lecture Notes in Electrical Engineering*, Edited by Dejan Milutinovic and Jacob Rosen, Springer, pp. 183-199, Vol. 57, ISBN 978-3-642-33970-7, 2013.

- International Conference Proceedings Papers -

1. Yinjie Niu, **Ming Ding**, Yuxiao Zhang, Kento Ohtani, and Kazuya Takeda, “Auditory and visual warning information generation of the risk object in driving scenes based on weakly supervised learning”, *The 2022 IEEE Intelligent Vehicles Symposium (IV)*, Jun. 2022.
2. **Ming Ding**, Eijiro Takeuchi, Yoshio Ishiguro, Yoshiki Ninomiya, Nobuo Kawaguchi, and Kazuya Takeda, “How to monitor multiple autonomous vehicles remotely with few observers: An active management method”, *The 2021 IEEE Intelligent Vehicles Symposium (IV)*, pp. 1168–1173, Jul. 2021.
3. Sung-Gwi Cho, Tetsuya Kurasumi, Masahiro Yoshikawa, **Ming Ding**, Jun Takamatsu, and Tsukasa Ogasawara, “Estimation of forearm pose based on upper arm deformation using a deep neural network”, *the IEEE International Conference on Robotics and Biomimetics (ROBIO)*, pp. 1245–1250, Dec. 2019.
4. Tatsuya Sakuma, Elaine Phillips, Gustavo Alfonso Garcia Ricardez, **Ming Ding**, Jun Takamatsu, and Tsukasa Ogasawara, “A parallel gripper with a universal fingertip device using optical sensing and jamming transition for maintaining stable grasps”, *the IEEE International Conference on Intelligent Robots and Systems (IROS)*, pp. 5814–5819, Nov. 2019.
5. Akishige Yuguchi, Tomoaki Inoue, G. A. Garcia Ricardez, **Ming Ding**, Jun Takamatsu, and Tsukasa Ogasawara, “Real-time gazed object identification with a variable point of view using a mobile service robot”, *the 28th IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, New Delhi, India, Oct. 2019.
6. Tetsuya Kurasumi, Sung-Gwi Cho, **Ming Ding**, Gustavo Alfonso Garcia Ricardez, Jun Takamatsu, and Tsukasa Ogasawara, “Simultaneous estimation of elbow joint angle and load based on upper arm deformation”, *the 2019 IEEE International Conference on Cyborg and Bionic Systems (CBS)*, pp. 136–141, Sep. 2019.
7. Mikiyoshi Nagashima, Sung-Gwi Cho, **Ming Ding**, Gustavo Alfonso Garcia Ricardez, Jun Takamatsu, and Tsukasa Ogasawara, “Prediction of plantar forces during gait using wearable sensors and deep neural networks”, *the 41th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, pp. 3629–3632, Jul. 2019.
8. Takuya Kiyokawa, **Ming Ding**, Gustavo Alfonso Garcia Ricardez, Jun Takamatsu, and Tsukasa Ogasawara, “Generation of a tactile-based pouring motion using fingertip force sensors”, *the 2019 IEEE/SICE International Symposium on System Integrations (SII)*, pp. 669–674, Paris, France, Jan. 2019.
9. Sung-Gwi Cho, Masahiro Yoshikawa, **Ming Ding**, Jun Takamatsu, and Tsukasa Ogasawara, “Estimation of hand motion based on forearm deformation”, *2018 IEEE International Conference on Robotics and Biomimetics (ROBIO)*, pp. 2291–2296, Oct. 2018.
10. Daiki Yoshioka, **Ming Ding**, Gustavo Alfonso Garcia Ricardez, Jun Takamatsu, and Tsukasa Ogasawara, “Scoop the semi-liquid objects using a spoon-equipped Robot arm for Meal Support”, *ASME 2018 Dynamic Systems and Control Conference (DSCC)*, Atlanta, Georgia, USA, Sep. 2018.
11. **Ming Ding**, Ryuzo Baba, Kristada Masanthia, Gustavo Alfonso Garcia Ricardez, Jun Takamatsu, and Tsukasa Ogasawara, “Estimation of the Operating Force from the Human Motion”, *the 40th International Engineering in Medicine and Biology Conference (EMBC)*, Honolulu, USA, Jul. 2018.
12. Gustavo Alfonso Garcia Ricardez, Atsushi Ito, **Ming Ding**, Masahiro Yoshikawa, Jun Takamatsu, Yoshio Matsumoto, and Tsukasa Ogasawara, “Wearable Device to Record Hand Motions based on EMG and Visual Information”, *the 14th IEEE/ASME International Conference on Mechatronic and Embedded Systems and Applications (MESA)*, Oulu, Finland, Jul. 2018.
13. Kenta Toyoshima, **Ming Ding**, Jun Takamatsu, and Tsukasa Ogasawara, “What is Required for a Robot to Gently Stroke a Human using its Hand”, *ICRA2018 Workshop on Elderly Care Robotics Technology and Ethics*, Brisbane, Australia, May, 2018.

14. Lotfi El Hafi, **Ming Ding**, Jun Takamatsu, and Tsukasa Ogasawara, “Gaze Tracking and Object Recognition from Eye Images”, *2017 First IEEE International Conference on Robotic Computing (IRC)*, Taichung, Taiwan, Apr. 2017.
15. Lotfi El Hafi, **Ming Ding**, Jun Takamatsu, and Tsukasa Ogasawara, “Gaze Tracking Using Corneal Images Captured by a Single High-Sensitivity Camera”, *2016 International Broadcasting Convention (IBC)*, Amsterdam, Netherlands, Sep. 2016.
16. Takamitsu Matsubara, Yoshihito Funaki, **Ming Ding**, Tsukasa Ogasawara, and Kenji Sugimoto, “Data-Efficient Human Training of a Care Motion Controller for Human Transfer Assistant Robots using Bayesian Optimization”, *6th IEEE RAS & EMBS International Conference on Biomedical Robotics and Biomechanics (BioRob)*, Singapore, Jun. 2016.
17. **Ming Ding**, Hiroki Nitta, and Tatsuya Suzuki, “Machine Learning based Estimation of Driving Posture using Pressure Distribution Sensors”, *SICE Annual Conference 2015*, Hangzhou, China, Jul. 2015 (Position Paper).
18. Keishi Ashida, Yoshifumi Morita, Ryojun Ikeura, Kiyoko Yokoyama, **Ming Ding**, and Yuki Mori, “Effective Rocking Motion for Inducing Sleep in Adults - Verification of Effect of Mother’s Embrace and Rocking Motion”, *the 2015 International Conference on Artificial Life and Robotics (ICAROB)*, pp. 41-46, HorutoHall, Oita, Jan. 2015.
19. Teru Yonezawa, Takayuki Onodera, **Ming Ding**, Hiroshi Mizoguchi, Hiroshi Takemura, and Takeki Ogitsu, “Development of Three-dimensional Motion Measuring Device for the Human Ankle Joint by Using Parallel Link Mechanism”, *the 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)*, , pp.4358-4361, 2014.
20. **Ming Ding**, Ryojun Ikeura, Yuki Mori, Toshiharu Mukai, and Shigeyuki Hosoe, “Lift-up Motion Generation of Nursing-care Assistant Robot Based on Human Muscle Force and Body Softness Estimation”, *2014 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)*, Besancon, France, Jul. 2014.
21. **Ming Ding**, Ryojun Ikeura, Yuki Mori, Toshiharu Mukai, and Shigeyuki Hosoe, “Measurement of Human Body Stiffness for Lifting-Up Motion Generation Using Nursing-care Assistant Robot - RIBA”, *the 2013 IEEE Sensors Conference*, Baltimore, MD, USA, Nov. 2013.
22. **Ming Ding**, Ryojun Ikeura, Toshiharu Mukai, Hiromichi Nagashima, Shinya Hirano, Kazuya Matsuo, Minghui Sun, Chang’an Jiang, and Shigeyuki Hosoe, “Comfort Estimation During Lift-up Using Nursing-care Robot - RIBA”, *2012 First International Conference on Innovative Engineering Systems (ICIES)*, Alexandria, Egypt, pp. 246-250, Dec. 2012.
23. Takayuki Onodera, **Ming Ding**, Hiroshi Takemura, and Hiroshi Mizoguchi, “Design and Development of Stewart Platform-Type Assist Device For Ankle-Foot Rehabilitation”, *2012 First International Conference on Innovative Engineering Systems (ICIES)*, Alexandria, Egypt, pp. 1-6, Dec. 2012.
24. **Ming Ding**, Takayuki Onodera, Ryojun Ikeura, Hiroshi Takemura, and Hiroshi Mizoguchi, “Position, Force and Stiffness Control of a Stewart-Platform-Type Ankle-Foot Assist Device”, *the 2012 Dynamic Systems and Control Conference (DSCC)*, Ft. Lauderdale, FL, USA, Oct. 2012.
25. **Ming Ding**, Tomohiro Iida, Hiroshi Takemura, and Hiroshi Mizoguchi, “Displacement Estimation for Foot Rotation Axis Using a Stewart-Platform-Type Assist Device”, *the 4th International Conference on Intelligent Robotics and Applications (ICIRA)*, Aachen, Germany, Part I, LNAI 7101, pp. 221–229, Dec. 2011.
26. Ryosuke Osaki, Hiroshi Takemura, **Ming Ding**, Hiroshi Hyodo, Kohei Soga, and Hiroshi Mizoguchi, “3D Bioimaging Sensor of Breast Cancer Cell Using Rare-earth-doped Ceramic Nanophosphors and Near-infrared”, *the 2011 IEEE Sensors Conference*, Limerick, Ireland, pp. 1784-1787, Oct. 2011.

27. **Ming Ding**, Takayuki Onodera, Hiroshi Takemura, and Hiroshi Mizoguchi, “Development of a New Foot-ankle Assist Device with Stewart Platform Mechanism”, *2011 International Biomechanics Conference and Annual Meeting of Taiwanese Society of Biomechanics (TBS)*, Taiwan, Oct. 2011.
28. Satoshi Kudoh, **Ming Ding**, Hiroshi Takemura, and Hiroshi Mizoguchi, “Improvement of Plantar Tactile Sensitivity by Stochastic Resonance for Prevention of Falling”, *the 4th International Congress on Image and Signal Processing (CISP)*, Shanghai, China, pp. 187-190, Oct. 2011.
29. Yusuke Kitano, **Ming Ding**, Hiroshi Takemura, and Hiroshi Mizoguchi, “Constant Execution Time Multiple Human Detector Regardless of Target Number Increase Based on HLAC”, *the 2011 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM)*, Budapest, Hungary, pp. 13-18, Jul. 2011.
30. **Ming Ding**, Kotaro Hirasawa, Yuichi Kurita, Hiroshi Takemura, Jun Takamatsu, Hiroshi Mizoguchi, and Tsukasa Ogasawara, “Pinpointed Muscle Force Control in Consideration of Human Motion and External Force”, *the 2010 IEEE International Conference on Robotics and Biomimetics (ROBIO)*, Tianji, China, pp. 739-744, Dec. 2010.
31. Shinichiro Suzuki, Akira Chaki, **Ming Ding**, Hiroshi Takemura, and Hiroshi Mizoguchi, “Influence of Plantar Insensitive for Human Gait in Even and Uneven Terrain”, *the 1st International Conference on Applied Bionics and Biomechanics (ICABB)*, Venice, Italy, Oct. 2010.
32. **Ming Ding**, Yuichi Kurita, Jun Ueda, and Tsukasa Ogasawara, “Pinpointed Muscle Force Control Taking Into Account the Control DOF of Power-assisting Device”, *the 2010 Dynamic Systems and Control Conference (DSCC)*, Cambridge, Massachusetts, Sep. 2010.
33. Shinji Kuriyama, **Ming Ding**, Yuichi Kurita, Jun Ueda, and Tsukasa Ogasawara, “Flexible Sensor for McKibben Pneumatic Actuator”, *the 2009 IEEE Sensors Conference*, Christchurch, New Zealand, Oct. 2009.
34. Jun Ueda, Moiz Hyderabadwala, **Ming Ding**, Tsukasa Ogasawara, Vijaya Krishnamoorthy, and Minoru Shinohara, “Individual Muscle Control using an Exoskeleton Robot for Muscle Function Testing”, *the 2009 Dynamic Systems and Control Conference (DSCC)*, Hollywood, California, Oct. 2009.
35. **Ming Ding**, Jun Ueda, and Tsukasa Ogasawara, “Pinpointed Muscle Force Control Using a Power-Assisting Device: System Configuration and Experiment”, *the 2nd IEEE RAS & EMBS International Conference on Biomedical Robotics and Biomechatronics (BioRob)*, pp. 181-186, pp. 181-186, Scottsdale, USA, Oct. 2008.
36. **Ming Ding**, Jun Ueda, and Tsukasa Ogasawara, “Development of MAS - a system for pinpointed muscle force control using a power-assisting device”, *the 2007 IEEE International Conference on Robotics and Biomimetics (Robio)*, pp. 1463-1469, Sanya, China, Dec. 2007.
37. Jun Ueda, **Ming Ding**, Masayuki Matsugashita, Reishi Oya, and Tsukasa Ogasawara, “Pinpointed control of muscles by using power-assisting device”, *the 2007 IEEE International Conference on Robotics and Automation (ICRA)*, pp. 3821-3828, Roma, Italy, Apr. 2007.

Books

1. Yugui, (**Ming Ding**, and Lv Jia, Trans.), “Hajimeteno Ruby (Chinese)”, *Southeast University Press*, ISBN: 9787564121341, 2010.

Patents

1. Jun ueda, Tsukasa Ogasawara, **Ming Ding**, “Driving force calculating device, driving force calculating method, power”, *USA Patent 7529632*, 2009.

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