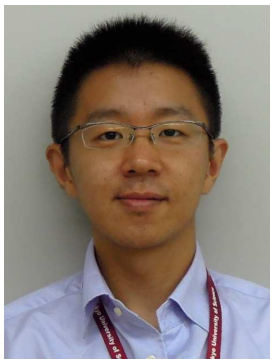
Ming Ding

Curriculum Vitae

Birthday: 1980.10.9 Sex: Male Age: 39



Business address:

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

NIC711, Furo-cho, Chikusa-ku, Nagoya 464-8601, Japan
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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 Laboratry, Graduate School of Information Science, Nara Institute of Science and Technology, Japan
- **Assistant Professor** May 2015 ∼ Oct. 2019
  in Robotics Laboratry, 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) of Japan Society for the Promotion of Science (JSPS)** Apr. 2017 ∼ Mar. 2019
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) of Japan Society for the Promotion of Science (JSPS)** Apr. 2011 ∼ Mar. 2013
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:

- Refereed Journal Papers -

1. S.-G. Cho, M. Yoshikawa, **Ming Ding**, J. Takamatsu, and T. 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.

2. 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.

3. 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.

4. **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.

5. 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 Artificical Life*, Vol. 1, No. 4, pp. 285-290, 2015.

6. 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.

7. Teru Yonezawa, Takayuki Onodera, **Ming Ding**, Hiroshi Mizoguchi, Hiroshi Takemura, Takeki Ogitsu, "Development of Three-dimensional Motion Measuring Device for the Human Ankle Joint by Using Parallel Link Mechanism", *Engineering in Medicine and Biology Society (EMBC), 2014 36th Annual International Conference of the IEEE*, DOI 10.1109/EMBC.2014.6944589, pp.4358-4361, 2014.

8. 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.

9. **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.

10. 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.

11. 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.

12. **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).

13. 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.

14. 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.

- Refereed International Conference Proceedings Papers -

1. S.-G. Cho, T. Kurasumi, M. Yoshikawa, **Ming Ding**, J. Takamatsu, and T. 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.

2. T. Sakuma, E. Phillips, G. A. G. Ricardez, **Ming Ding**, J. Takamatsu, and T. Ogasawara, "A parallel gripper with a universal fingertip device using optical sensing and jamming transition for maintaining stable grasps", *in Proceedings of the IEEE International Conference on Intelligent Robots and Systems (IROS)*, pp. 5814–5819, Nov. 2019.

3. A. Yuguchi, T. Inoue, G. A. Garcia Ricardez, **Ming Ding**, J. Takamatsu, and T. 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.

4. T. Kurasumi, S.-G. Cho, **Ming Ding**, G. A. Garcia Ricardez, J. Takamatsu, and T. 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.

5. M. Nagashima, S.-G. Cho, **Ming Ding**, G. A. Garcia Ricardez, J. Takamatsu, and T. 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.

6. T. Kiyokawa, **Ming Ding**, G. A. Garcia Ricardez, J. Takamatsu, and T. 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.

7. S.-G. Cho, M. Yoshikawa, **Ming Ding**, J. Takamatsu, and T. Ogasawara, "Estimation of hand motion based on forearm deformation", *2018 IEEE International Conference on Robotics and Biomimetics (ROBIO)*, pp. 2291–2296, Oct. 2018.

8. 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 2018)*, Atlanta, Geogia, USA, Sep. 2018 (Accepted).

9. **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 2018)*, Honolulu, USA, Jul. 2018 (Accepted).

10. 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 2018)*, Oulu, Finland, Jul. 2018.

11. 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 21-25, 2018.

12. 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 2017)*, Taichung, Taiwan, Apr. 2017.

13. 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 2016)*, Amsterdam, Netherlands, Sep. 2016.

14. 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 Biomechatronics (BioRob 2016)*, Singapore, June. 26-29, 2016.

15. **Ming Ding**, Hiroki Nitta, and Tatsuya Suzuki, "Machine Learning based Estimation of Driving Posture using Pressure Distribution Sensors", *SICE Annual Conference 2015*, Hangzhou, China, July. 28-30, 2015 (Position Paper).

16. 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 @015 International Conference on Artificial Life and Robotics (ICAROB2015)*, pp. 41-46, HorutoHall, Oita, Jan. 10-12, 2015.

17. **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, July. 8-11, 2014.

18. **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. 4-6, 2013.

19. **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. 6-9, 2012.

20. 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. 6-9, 2012.

21. **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'12)*, Ft. Lauderdele, FL, USA, Oct. 17-19, 2012.

22. **Ming Ding**, Tomohiro Iida, Hiroshi Takemura and Hiroshi Mizoguchi, "Displacement Estimation for Foot Rotation Axis Using a Stewart-Platform-Type Assist Device", *4th International Conference on Intelligent Robotics and Applications (ICIRA2011)*, Aachen, Germany, Part I, LNAI 7101, pp. 221–229, 2011.

23. 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, October 28-31, 2011.

24. **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 (TBS2011)*, Taiwan, October 20-21, 2011.

25. 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 (CISP2011)*, Shanghai, China, pp. 187-190, October 15-17, 2011.

26. Yusuke Kitano, **Ming Ding**, Hiroshi Takemura, and Hiroshi Mizoguchi, "Constant Execution Time Multiple Human Detector Regardness of Target Number Increase Based on HLAC", *the 2011 IEEE/ASME International Conference on Advanced Intelligent Mechatronics (AIM2011)*, Budapest, Hungary, pp. 13-18, July 3-7, 2011.

27. **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 (ROBIO2010)*, Tianji, China, pp. 739-744, December 14-18, 2010.

28. 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 (ICABB2010)*, Venice, Italy, October 14-16, 2010.

29. **Ming Ding**, Yuichi Kurita, Jun Ueda, and Tsukasa Ogasawara, "Pinpointed Muscle Force Control Taking Intro Account the Control DOF of Power-assisting Device", *the 2010 Dynamic Systems and Control Conference (DSCC'10)*, Cambridge, Massachusetts, September 13-15, 2010.

30. 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, October 25-28, 2009.

31. 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'09)*, Hollywood, California, October 12-14, 2009.

32. **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 2008)*, pp. 181-186, Scottsdate, USA, October 19-22, 2008.

33. **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 (Robio2007)*, pp. 1463-1469, Sanya, China, December 15-18, 2007.

34. 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 2007)*, pp. 3821-3828, Roma, Italy, April, 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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