

# Kentaro Wada

5-14-24 Sendagi, Bunkyo-ku, Tokyo, 1130022, Japan  
www.kentaro.wada@gmail.com • +81 (80) 6177-5221 • http://wkentaro.com

## EDUCATION

### The University of Tokyo, Bunkyo-ku, Tokyo, Japan

- Master of Computer Science (M.S.) in Creative Informatics of Information Science and Technology  
Sep 2016 – Present
  - Thesis: Study of Robotic Manipulation with Learning for Object Segmentation
  - Supervisors: Prof. Masayuki Inaba and Associate Prof. Kei Okada
  - Focus: Machine Learning, 3D Vision, Robotic Manipulation
- Bachelor of Science (B.S.) in Mechano-Informatics, Engineering Department Apr 2012 – Mar 2016
  - Thesis: Learning for Picking through Experience of Verification-based Perception System
  - Supervisors: Prof. Masayuki Inaba and Associate Prof. Kei Okada
  - Focus: Machine Learning, 3D Vision, Robotic Manipulation
  - Studied in Science II Course in Apr 2012 – Sep 2014, before the decision of department in Oct 2014

## RESEARCH EXPERIENCE

### JSK Robotics Laboratory, The University of Tokyo

- Graduate Research Student, Computer Science Department Oct 2016 – Present
  - Project: Study of Robotic Manipulation with Learning for Object Segmentation (Master Thesis)
  - Supervisors: Prof. Masayuki Inaba and Associate Prof. Kei Okada
  - Focus: Deep Learning, 3D Vision, Robotic Manipulation
- Research Assistant Oct 2015 – Mar 2017
  - Project: Picking General Objects with Verification-based Vision System
  - Supervisors: Associate Prof. Kei Okada
  - Focus: Deep Learning, 3D Vision, Robotic Manipulation
- Undergraduate Research Student, Engineering Department Apr 2015 – Mar 2016
  - Project: Learning for Picking through Experience of Verification-based Perception System (Bachelor Thesis)
  - Supervisors: Prof. Masayuki Inaba and Associate Prof. Kei Okada
  - Focus: Deep Learning, 3D Vision, Robotic Manipulation

### Tanaka Kenji Laboratory, The University of Tokyo

- Research Assistant May 2014 – Mar 2015
  - Project: Customer Clustering with Big Data Analysis of Purchase History
  - Supervisors: Associate Prof. Kenji Tanaka
  - Focus: Machine Learning, Data Mining

## PUBLICATIONS

### JOURNALS

- [7] K. Wada, I. Yanokura, M. Sugiura, Y. Inagaki, K. Okada, and M. Inaba, “Pick-and-Verify: Verification-based Highly Reliable Picking System for Various Target Objects in Clutter”, *Journal of Advanced Robotics*, Mar 2017.

## INTERNATIONAL CONFERENCES

- [14] K. Wada, S. Hasegawa, S. Kitagawa, Y. Uchimi, N. Yamaguchi, K. Okada, and M. Inaba, “Few-shot Learning based on Context-aware Network Expansion with Artificial Training Data for Picking in Warehouse Automation”, in *Proceedings of the 2018 IEEE International Conference on Robotics and Automation (ICRA2018)*, (Under Review)
- [9] K. Wada, K. Okada, and M. Inaba, “Probabilistic 3D Multilabel Real-time Mapping for Multi-object Manipulation”, in *Proceedings of the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS2017)*, Vancouver, Canada. Sep 2017.
- [8] S. Hasegawa, K. Wada, Y. Niitani, K. Okada, and M. Inaba, “A Three-Fingered Hand with a Suction Gripping System for Picking Various Objects in Cluttered Narrow Space”, in *Proceedings of the 2017 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS2017)*, Vancouver, Canada. Sep 2017.
- [6] K. Wada, M. Murooka, K. Okada, and M. Inaba, “3D Object Segmentation for Shelf Bin Picking by Humanoid with Deep Learning and Occupancy Voxel Grid Map”, in *Proceedings of the 2016 IEEE-RAS International Conference on Humanoid Robotics (Humanoids 2016)*, Cancun, Mexico. Nov 2016.
- [5] Y. Furuta, K. Wada, M. Masaki, S. Nozawa, Y. Kakichi, K. Okada and M. Inaba, “Transformable Semantic Map Based Navigation using Autonomous Deep Learning Object Segmentation”, in *Proceedings of the 2016 IEEE-RAS International Conference on Humanoid Robotics (Humanoids 2016)*, Cancun, Mexico. Nov 2016.

## DOMESTIC CONFERENCES

- [10] K. Wada, K. Okada and M. Inaba, “Fully Convolutional Object Depth Prediction for 3D Segmentation from 2.5D Input”, in *Annual Conference of the Japanese Society for Artificial Intelligence 2017*, Aichi, Japan. May 2017.
- [11] M. Murooka, Y. Niitani, K. Wada, S. Nozawa, Y. Kakiuchi, K. Okada and M. Inaba, “Motion Prediction of Object in Image by Deep Learning for Robot Manipulation”, in *Annual Conference of the Japanese Society for Artificial Intelligence 2017*, Aichi, Japan. May 2017.
- [12] S. Kitagawa, K. Wada, K. Okada and M. Inaba, “Learning-based Task Failure Prediction and Selective Execution of Dual-arm Support Motion for Stowing Task”, in *Annual Conference of the Japanese Society for Artificial Intelligence 2017*, Aichi, Japan. May 2017.
- [13] S. Hasegawa, K. Wada, K. Okada and M. Inaba, “Development of Suction Pinching Hand for Picking Task in Narrow Space”, in *2017 JSME Conference on Robotics and Mechatronics*, Fukushima, Japan. May 2017.
- [4] Y. Niitani, K. Wada, S. Hasegawa, S. Kitagawa, M. Bando, K. Okada, and M. Inaba, “Semantic Image Segmentation and 3D Object Outline Extraction with Deep Learning for Picking Objects from Shelf-bin”, in *Annual Conference of The Robotics Society of Japan*, Yamagata, Japan. Sep 2016.
- [3] K. Wada, K. Okada and M. Inaba, “Advanced Multi-layered Perception for Picking in Clutter with Parameter Reinforcement Learning via Experiment in Task” (in Japanese), in *The Robotics and Mechatronics Conference 2016*, Kanagawa, Japan. Jun 2016.
- [2] K. Wada, I. Yanokura, M. Sugiura, Y. Inagaki, K. Okada and M. Inaba, “Daily Object Picking System with Visual Verification and Vacuum Gripper on Dual-arm Robot” (in Japanese), in *Annual Conference of Robotics Society Japan 2015*, Tokyo, Japan. Mar 2015.
- [1] K. Wada, K. Kawakami, Y. Honda, K. Tanaka, “Customer Clustering with Big Data Analysis of Purchase History” (in Japanese), in *Japanese Artificial Intelligence Conference, SIG-KST 23th*, Tokyo, Japan. Nov 2014.

<b>PROFESSIONAL AFFILIATIONS &amp; ACTIVITIES</b>	<b>Amazon Picking Challenge 2016</b> , Leipzig, Germany	
	<ul style="list-style-type: none"> <li>▪ K. Wada, S. Hasegawa, S. Kitagawa, Y. Niitani, M. Bando, K. Okada and M. Inaba</li> <li>▪ 5th/8th place in 16 teams for pick/stow tasks.</li> <li>▪ A core member of the team composed of 5 students and 2 professors.</li> <li>▪ Especially worked for object recognition.</li> </ul>	Apr 2016 – Jul 2016
	<b>Google Summer of Code 2016</b> , Tokyo, Japan	
	<ul style="list-style-type: none"> <li>▪ K. Wada, F. Proctor, S. Edwards</li> <li>▪ Student, Passed the Final Evaluation</li> </ul>	May 2016 – Aug 2016
	<b>Amazon Picking Challenge 2015</b> , Seattle, USA	
	<ul style="list-style-type: none"> <li>▪ K. Wada, I. Yanokura, M. Sugiura, Y. Inagaki, K. Okada and M. Inaba</li> <li>▪ 8th place in 28 teams.</li> <li>▪ A core member of the team composed of 4 students and 2 professors.</li> <li>▪ Worked for object recognition and robotic manipulation.</li> </ul>	Oct 2014 – May 2015
<b>OTHER WORK EXPERIENCE</b>	<b>Donuts Co. Ltd.</b> , Tokyo, Japan	
	<ul style="list-style-type: none"> <li>▪ Internship as a system integrator <ul style="list-style-type: none"> <li>• Frontend of e-commerce site with HTML, CSS and Javascript.</li> <li>• Posting system construction with PHP.</li> </ul> </li> </ul>	Sep 2013 – Jan 2014
	<b>Honda Research Institute</b> , Tokyo, Japan	
	<ul style="list-style-type: none"> <li>▪ Internship as a researcher <ul style="list-style-type: none"> <li>• Road scene recognition with deep learning</li> </ul> </li> </ul>	Aug 2014 – Sep 2014
<b>LANGUAGES</b>	<ul style="list-style-type: none"> <li>▪ Japanese: Native language.</li> <li>▪ English: Fluent (listening, speaking, reading, writing).</li> <li>▪ Chinese: Basic (listening, speaking, reading, writing).</li> </ul>	
<b>SKILLS</b>	<ul style="list-style-type: none"> <li>▪ Programming Languages: Python, C++, C, Bash, Zsh, HTML, CSS, Javascript, PHP, Lisp</li> <li>▪ Frameworks: Chainer, Caffe, scikit-learn, ROS, PCL, OpenCV, scikit-image, flask</li> </ul>	
<b>INTERESTS</b>	Basketball, western art, piano.	
<b>REFERENCES</b>	<ul style="list-style-type: none"> <li>▪ <b>Professor Masayuki Inaba</b> Professor of Mechano-Informatics Department The University of Tokyo 73A1, Engineering Building NO. 2, 7-3-1, Hongo, Bunkyo-ku, Tokyo, 1138656, Japan inaba@jsk.imi.i.u-tokyo.ac.jp • +81 (3) 5841-7416</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ <b>Associate Professor Kei Okada</b> Associate Professor of Mechano-Informatics Department The University of Tokyo 73A2, Engineering Building NO. 2, 7-3-1, Hongo, Bunkyo-ku, Tokyo, 1138656, Japan k-okada@jsk.imi.i.u-tokyo.ac.jp • +81 (3) 5841-7416</li> </ul>	

[CV compiled on 2017-09-20]