

# Kentaro Wada

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## 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 Assistant 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 Assistant 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 Assistant Prof. Kei Okada
  - Focus: Deep Learning, 3D Vision, Robotic Manipulation
- Research Assistant Oct 2015 – Sep 2016
  - Project: Picking General Objects with Verification-based Vision System
  - Supervisors: Assistant 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 Assistant 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

- [6] 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*, (To appear)

### INTERNATIONAL CONFERENCES

- [7] K. Wada, K. Okada, and M. Inaba, “LabelOctoMap: Probabilistic 3D Mapping for Object Segmentation”, in *Proceedings of the 2017 IEEE-RAS International Conference on Robotics and Automation (ICRA2017)*, (Under review).
- [5] 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.
- [4] 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

- [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 *Annual Conference of Robotics Society Japan 2015*, Yokohama, Japan. Aug 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.

## PROFESSIONAL AFFILIATIONS & ACTIVITIES

### **Amazon Picking Challenge 2016**, Leipzig, Germany

- 5th/8th place in 16 teams for pick/stow tasks.
- A core member of the team composed of 5 students and 2 professors.
- Especially worked for object recognition.

Apr 2016 – Jul 2016

### **Google Summer of Code 2016**, Tokyo, Japan

- Student, Passed the Final Evaluation

May 2016 – Aug 2016

### **Amazon Picking Challenge 2015**, Seattle, USA

- 8th place in 28 teams.
- A core member of the team composed of 4 students and 2 professors.
- Worked for object recognition and robotic manipulation.

Oct 2014 – May 2015

## OTHER WORK EXPERIENCE

### **Honda Research Institute**, Tokyo, Japan

- Internship as a researcher
  - Road scene recognition with deep learning

Aug 2014 – Sep 2014

### **Donuts Co. Ltd.**, Tokyo, Japan

- Internship as a system integrator
  - Frontend of e-commerce site with HTML, CSS and Javascript.
  - Posting system construction with PHP.

Sep 2013 – Jan 2014

## LANGUAGES

- Japanese: Native language.
- English: Fluent (listening, speaking, reading, writing).
- Chinese: Basic (listening, speaking, reading, writing).

## SKILLS

- Programming Languages: Python, C++, C, Bash, Zsh, HTML, CSS, Javascript, PHP, Lisp
- Frameworks: Chainer, Caffe, scikit-learn, ROS, PCL, OpenCV, scikit-image, flask

## INTERESTS

Basketball, western art, piano.

## REFERENCES

### ▪ **Professor Masayuki Inaba**

Professor of Mechano-Informatics Department

The University of Tokyo

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### ▪ **Assistant Professor Kei Okada**

Assistant Professor of Mechano-Informatics Department

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