Kentaro Wada

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Date of birth: 31 January 1994 • Nationality: Japanese

EDUCATION

University of Tokyo
MS in Information Science and Technology — *September 2016 – Present*
BE in Mechano-Informatics — *April 2012 – March 2016*
Advisors: Prof. Masayuki Inaba, Associate Prof. Kei Okada

PORTFOLIO

wkentaro.com
Extensive listing of cocurricular and research projects.

DISTINCTION

University of Tokyo, Toyota Dwango Advanced AI Fellowship — *2017*

Google Summer of Code Student — *2016*
Completed an open source project from the Open Source Robotics Foundation.

5th Place Winners (Pick Task) at the Amazon Picking Challenge — *2016*
An internationally recognised premier robotics competition.

PUBLICATIONS

Kentaro Wada, Shun Hasegawa, Shingo Kitagawa, Yuto Uchimi, Naoya Yamaguchi, Kei Okada, and Masayuki Inaba, "Few-shot Learning Based on Context-aware Network Expansion with Artificial Training Data for Picking in Warehouse Automation", *Under review at the IEEE International Conference on Robotics and Automation (ICRA)*, 2018. [Paper] [Movie]

Kentaro Wada, Kei Okada, and Masayuki Inaba, "Probabilistic 3D Multilabel Real-time Mapping for Multi-object Manipulation", *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017. [Paper] [Movie] .

Shun Hasegawa, **Kentaro Wada**, Yusuke Niitani, Kei Okada, and Masayuki Inaba, "A Three-Fingered Hand with a Suction Gripping System for Picking Various Objects in Cluttered Narrow Space", *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017. [Paper] [Movie]

Kentaro Wada, Makoto Sugiura, Iori Yanokura, Yuto Inagaki, Kei Okada, and Masayuki Inaba, "Pick-and-Verify: Verification-based Highly Reliable Picking System for Various Target Objects in Clutter", *Journal of Advanced Robotics*, 2017. [Paper] [Movie]

Kentaro Wada, Masaki Murooka, Kei Okada, and Masayuki Inaba, "3D Object Segmentation for Shelf Bin Picking by Humanoid with Deep Learning and Occupancy Voxel Grid Map", *IEEE-RAS International Conference on Humanoid Robotics (Humanoids)*, 2016. [Paper] [Movie]

Yuki Furuta, **Kentaro Wada**, Masaki Murooka, Shunichi Nozawa, Yohei Kakichi, Kei Okada and Masayuki Inaba, "Transformable Semantic Map Based Navigation Using Autonomous Deep Learning Object Segmentation", *IEEE-RAS International Conference on Humanoid Robotics (Humanoids)*, 2016. [Paper] [Movie]

RESEARCH EXPERIENCE

Leader of the UTokyo Team at the Amazon Robotics Challenge *2015 – 2017*
JSK Robotics Laboratory at the University of Tokyo
Advisor: Associate Prof. Kei Okada
Objectives: To develop a robust state-of-the-art robot picking system for warehouse automation. 2015 edition: Verification based robust picking system by in-hand recognition. 2016 edition: Deep learning based 3D semantic segmentation. 2017 edition: Few-shot deep learning of novel object segmentation using only instance images.

Research Assistant at the UTokyo JSK Robotics Lab *2015 – 2017*
JSK Robotics Laboratory at University of Tokyo
Advisor: Associate Prof. Kei Okada
Objectives: To develop a system of continuous integration of a robotic system as a whole: (1) Same software as a robotic system on simulation and real world. (2) Enable motion testing by a simulator with dynamics.

Research Assistant at the UTokyo Tanaka Kenji Lab *2014 – 2015*
Tanaka Kenji Laboratory at the University of Tokyo
Advisor: Associate Prof. Kenji Tanaka
Objectives: To analyse customer data of an e-commerce site and segment the users' tastes by clustering user data according to page access and shopping.

WORK EXPERIENCE

Donuts Co. Ltd., Tokyo *2013 – 2014*
Interned as a System Integrator

Honda Research Institute, Tokyo *2014*
Summer intern, Road scene understanding with deep learning

KEY SKILLS

- High-level programming skills, especially with Python and C++, trained in the research use and contributions to open source projects at GitHub.
- Experience and knowledge of constructing a large robot vision system integrating various kinds of hardware and software with the Robot Operating System (ROS).
- Knowledge of deep learning implementation with the frameworks including, Chainer, PyTorch and Caffe, and GPU computing using CUDA.

INTERESTS

Deep learning, Scene understanding, 3D reconstruction, Real-time vision system.

REFERENCES

Prof. Masayuki Inaba
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University of Tokyo
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