# Kentaro Wada

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Date of birth: 31st January 1994 • Nationality: Japan

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**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 Open Source Robotics Foundation.*

5th Place Winners (Pick Task) at the Amazon Picking Challenge — *2016*
*An internationally recognized 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 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 University of Tokyo*
Advisor: Associate Prof. Kei Okada
Objectives: 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: develop a system of continuous integration of robotic system as a whole: (1) same software of robotic system on simulation and real world. (2) enable motion testing by simulator with dynamics.

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

**WORK EXPERIENCE**

Donuts Co. Ltd., Tokyo *2013 – 2014*
*Internship as a system integrator*

Honda Research Institute, Tokyo *2014*
*Summer internship, 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 knowlege of constructing a large robot vision system integrating various kinds of hardware and software with Robot Operating System (ROS).
- Knowledge of deep learning implementation with the frameworks, 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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