# Kazuto Nakashima

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## Experience

Assistant Professor
Kyushu University, March 2023–Present

Postdoctoral Researcher
Kyushu University, April 2021–February 2023

Research Fellow (PD)
The Japan Society for the Promotion of Sciences, January–March 2021

Research Fellow (DC2)
The Japan Society for the Promotion of Sciences, April 2019–December 2020

Research Assistant
Kyushu University, April 2018–March 2019

Research Intern
NASA Jet Propulsion Laboratory, California Institute of Technology, October–December 2017

Research Assistant
Center for Co-Evolutional Social Systems, Kyushu University, April–September 2017

Research Intern
Toshiba Corp R&D Center, August–September 2015

## Education

Ph.D., Information Science and Electrical Engineering
Kyushu University, April 2017–December 2020
*Advisor: Prof. Ryo Kurazume*
*Thesis: Multimodal Visual Perception for Real-World Scene Parsing*

M.E., Information Science and Electrical Engineering
Kyushu University, April 2015–March 2017
*Advisor: Prof. Ryo Kurazume*

B.E., Electrical Engineering and Computer Science
Kyushu University, April 2013–March 2015
*Advisor: Prof. Ryo Kurazume*

# Teaching Experience

Laboratory of Electrical Engineering and Computer Science
School of Engineering, Kyushu University, 2023–Present

Teaching Assistant
Faculty of Arts and Science, Kyushu University, 2015–2017

Part-Time Lecturer
Kyushu Electric College, 2015–2017

# Publications

## *Journal Articles*

Jeongho Ahn, Kazuto Nakashima, Koki Yoshino, Yumi Iwashita, Ryo Kurazume. "Learning Viewpoint-Invariant Features for LiDAR-Based Gait Recognition". *IEEE Access*, 2023

Kazuto Nakashima, Yumi Iwashita, Ryo Kurazume. "Lifelogging Caption Generation via Fourth-Person Vision in a Human–Robot Symbiotic Environment". *ROBOMECH Journal*, 2020

Yumi Iwashita, Kazuto Nakashima, Joseph Gatto, Shoya Higa, Norris Khoo, Ryo Kurazume, Adrian Stoica. "Virtual IR Sensing for Planetary Rovers: Improved Terrain Classification and Thermal Inertia Estimation". *IEEE Robotics and Automation Letters (RA-L) with IROS presentation*, 2020

Oscar Martinez Mozos, Kazuto Nakashima, Hojung Jung, Yumi Iwashita, Ryo Kurazume. "Fukuoka Datasets for Place Categorization". *International Journal of Robotics Research (IJRR)*, Vol.38, No.5, 2019

Kazuto Nakashima, Hojung Jung, Yuki Oto, Yumi Iwashita, Ryo Kurazume, Oscar Martinez Mozos. "Learning Geometric and Photometric Features from Panoramic LiDAR Scans for Outdoor Place Categorization". *Advanced Robotics*, Vol.32, No.14, 2018

## *Conference Proceedings*

Kazuto Nakashima and Ryo Kurazume. "LiDAR Data Synthesis with Denoising Diffusion Probabilistic Models". *IEEE International Conference on Robotics and Automation (ICRA)*, 2024

Kazuto Nakashima, Yumi Iwashita, and Ryo Kurazume. "Generative Range Imaging for Learning Scene Priors of 3D LiDAR Data". *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, 2023

Kazuto Nakashima and Ryo Kurazume. "Learning to Drop Points for LiDAR Scan Synthesis". *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2021

Yumi Iwashita, Kazuto Nakashima, Sir Rafol, Adrian Stoica, and Ryo Kurazume. "MU-Net: Deep Learning-based Thermal IR Image Estimation from RGB Image". *IEEE Workshop on Perception Beyond the Visible Spectrum (in conjunction with CVPR)*, 2019

Yumi Iwashita, Kazuto Nakashima, Adrian Stoica, and Ryo Kurazume. "TU-Net and TDeepLab: Deep Learning-based Terrain Classification Robust to Illumination Changes, Combining Visible and Thermal Imagery". *IEEE International Conference on Multimedia Information Processing and Retrieval (MIPR)*, 2019

Kazuto Nakashima, Yumi Iwashita, Akihiro Kawamura, and Ryo Kurazume. "Fourth-person Captioning: Describing Daily Events by Uni-supervised and Tri-regularized Training". *IEEE International Conference on Systems, Man, and Cybernetics (SMC)*, 2018

Yumi Iwashita, Adrian Stoica, <u>Kazuto Nakashima</u>, Ryo Kurazume, and Jim Tørresen. "Virtual Sensors Determined through Machine Learning". *World Automation Congress (WAC)*, 2018

<u>Kazuto Nakashima</u>, Seungwoo Nham, Hojung Jung, Yumi Iwashita, Ryo Kurazume, and Oscar Martinez Mozos. "Recognizing Outdoor Scenes by Convolutional Features of Omni-directional LiDAR Scans". *IEEE/SICE International Symposium on System Integration (SII)*, 2017

Yuta Horikawa, Asuka Egashira, <u>Kazuto Nakashima</u>, Akihiro Kawamura, and Ryo Kurazume. "Previewed Reality: Near-Future Perception System". *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, 2017

Ryo Kurazume, Yoonseok Pyo, <u>Kazuto Nakashima</u>, T. Tsuji, and Akihiro Kawamura. "Feasibility Study of IoRT Platform "Big Sensor Box"". *IEEE International Conference on Robotics and Automation (ICRA)*, 2017

<u>Kazuto Nakashima</u>, Julien Girard, Yumi Iwashita, and Ryo Kurazume. "Automatic Houseware Registration System for Informationally-Structured Environment". *IEEE/SICE International Symposium on System Integration (SII)*, 2016

<u>Kazuto Nakashima</u>, Yumi Iwashita, Yoonseok Pyo, Asamichi Takamine, and Ryo Kurazume. "Fourth-Person Sensing for a Service Robot". *IEEE International Conference on Sensors*, 2015

Yumi Iwashita, <u>Kazuto Nakashima</u>, Yoonseok Pyo, and Ryo Kurazume. "Fourth-Person Sensing for Pro-active Services". *International Conference on Emerging Security Technologies (EST)*, 2014

## Research Grants

Grant-in-Aid for Early-Career Scientists
The Japan Society for the Promotion of Science (JSPS), 2023–2025

Grant-in-Aid for Scientific Research (A)
The Japan Society for the Promotion of Science (JSPS), 2020–2024

Research Start Program
Kyushu University, 2022

Grant-in-Aid for JSPS Fellows (DC2/PD)
The Japan Society for the Promotion of Science (JSPS), 2019–2020

## Awards & Scholarships

Research Fellowship for Young Scientists (DC2/PD)
The Japan Society for the Promotion of Science (JSPS), 2019–2021

Best Poster Presentation Award
The 14th Joint Workshop on Machine Perception and Robotics (MPR), 2018

Doctoral Scholarship
Kyushu University, 2017–2018

Overseas Internship Program
Funded by Kyushu University for the internship at NASA JPL, 2017

MIRU Student Incentive Award
The 20th Meeting on Image Recognition and Understanding (MIRU), 2017

Finalist of Best Service Robotics Paper Award
IEEE International Conference on Robotics and Automation (ICRA), 2017

Repayment Exemption for Outstanding Achievements
JASSO Category I Graduate Student Scholarship, 2015–2017

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