Shun **Iwase**

PhD Candidate · School of Computer Science, Robotics

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Education

Tokyo Institute of Technology *Tokyo, Japan*

B.E. in Electrical Engineering *Apr. 2014 - Mar. 2018*

- GPA: 3.55 / 4.00
- Exchange Student at Georgia Tech, Mar. 2017

Tokyo Institute of Technology *Tokyo, Japan*

M.E. in Computer Science *Apr. 2018 - Mar. 2020*

- GPA: 4.00 / 4.00
- Master Thesis: Epipolar-Guided Deep Object Matching for Scene Change Detection
- Exchange Student at Carnegie Mellon University, Oct 2019. - Mar. 2020
- Graduated top of the computer science course

Carnegie Mellon University *Pittsburgh, PA*

M.S. in Robotics *Aug. 2020 - May. 2022*

- GPA: 4.00 / 4.00
- Master Thesis: Fast 6D Object Pose Refinement via Deep Texture Rendering

Carnegie Mellon University *Pittsburgh, PA*

Ph.D. in Robotics *June. 2022 - Sep. 2025 (Expected)*

- GPA: 4.00 / 4.00
- Thesis Proposal: Universal Semantic-Geometric Priors for Zero-Shot Robotic Manipulation

Work Experience

Meta Reality Labs *Pittsburgh, PA*

Research Intern / 3D Computer Graphics *May. 2022 - Nov. 2022*

- Researched efficient neural 3D hand relighting
- Published one paper in CVPR 2023

Toyota Research Institute *Los Altos, CA*

Research Intern / Robotics, 3D Computer Vision *May. 2023 - Aug. 2023*

- Researched multi-object shape completion and detection in the wild
- Published one paper in ECCV 2024

Toyota Research Institute *Los Altos, CA*

Research Contractor / Robotics, 3D Computer Vision *Feb. 2024 - May. 2025*

- Researched simultaneous grasp pose prediction and reconstruction in the wild, and 3D-based robotics policies
- Published one paper in CVPR 2025

Apple Inc. *Cupertino, CA*

Research Intern / Robotics *May. 2025 - Current*

Selected Publications

ZeroGrasp: Zero-Shot Shape Reconstruction Enabled Robotic Grasping, CVPR 2025

Shun Iwase, Zubair Irshad, Katherine Liu, Vitor Guizilini, Robert Lee, Takuya Ikeda, Ayako Amma, Koichi Nishiwaki, Kris Kitani, Rareş Ambruş, Sergey Zakharov

Zero-Shot Multi-Object Scene Completion, ECCV 2024

Shun Iwase, Katherine Liu, Vitor Guizilini, Adrien Gaidon, Kris Kitani, Rares Ambrus, Sergey Zakharov

RelightableHands: Efficient Neural Relighting of Articulated Hand Models, CVPR 2023

Shun Iwase, Shunsuke Saito, Tomas Simon, Stephen Lombardi, Timur Bagautdinov, Rohan Joshi, Fabian Prada, Takaaki Shiratori, Yaser Sheikh, Jason Saragih

Embodied Scene-aware Human Pose Estimation, NeurIPS 2022

Zhengyi Luo*, Shun Iwase*, Ye Yuan, Kris M. Kitani *Equal contributions

RePOSE: Iterative Rendering and Refinement for 6D Object Pose Estimation, ICCV 2021
Shun Iwase, Xingyu Liu, Rawal Khirodkar, Rio Yokota, Kris Kitani

StereOBJ-1M: Large-scale Stereo Image Dataset for 6D Object Pose Estimation, ICCV 2021
Xingyu Liu, Shun Iwase, Kris Kitani

KDFNet: Learning Keypoint Distance Field for 6D Object Pose Estimation, IROS 2021
Xingyu Liu, Shun Iwase, Kris Kitani

Projects & Research Experience

TITAMAS, Tokyo Institute of Technology *Tokyo, Japan*
Lead Engineer *Apr. 2018 - Mar. 2020*

- Developed a smart white cane for visually impaired people which can detect obstacles and its distance in real-time
- Link to an introduction video: https://www.youtube.com/watch?v=IPwSHgdlTRA
- Microsoft Imagine Cup Japan 2017 Grand Prize (1%), Mar 2017
- Microsoft Imagine Cup World 2017 BEST 32, Aug 2017
- JPHacks 2016 (one of the largest hackathon in Japan), a Grand Prize and collected an array of awards, the AbemaTV Award, Softbank Award, Mitsubishi UFJ Morgan Stanley Securities Award (1st out of 89 teams), Oct 2016
- Mashup Awards 2016 Student Division 1st prize, Dec 2016

Tokyo Institute of Technology, Rio Yokota Lab; AIST AIRC *Tokyo, Japan*
Research Assistant *Apr. 2018 - Mar. 2020*

- Developed a web-based object-level change annotation tool with ReactJS
- Created the first large-scale synthetic change detection dataset with Unreal Engine 4
- Developed a hyper-parameter optimization library for a distributed GPU cluster (https://polaris.readthedocs.io)

Carnegie Mellon University, Klab *Pittsburgh, USA*
Visiting Researcher *Oct. 2019 - Mar. 2020*

- Researched 3D object detection using a monocular/stereo RGB image
- Researched 3D human pose estimation

Honors and Awards

2020-2022 **Fellowship**, Yoshida Scholarship Foundation Graduate Research Fellowship
Oct. 2017 **Award**, Tokyo Tech Award for Student Leadership (less than 1%, 5 out of about 4000 students)
Mar. 2017 **Award**, Incentive Award of the Dean of the School of Computing at Tokyo Institute of Technology
2017 - 2018 **Scholarship**, Kuma Scholarship Foundation

Skills

Programming Python, C++, CUDA, Javascript, Go, Ruby, SQL
DevOps Docker, AWS, GCP, Github
Softwares Unreal Engine 5, Blender, Maya, MATLAB, Adobe Illustrator