Hirokatsu Kataoka

Ph.D. in Engineering (Keio University)
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1. Contact Information

- Webpage: https://hirokatsukataoka.net/
- Google Scholar: https://scholar.google.co.jp/citations?hl=ja&user=f1CePVQAAAAJ
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2. Professional Experience

- National Institute of Advanced Industrial Science and Technology (AIST)
  - Chief Senior Researcher: Apr. 2023 – Present
  - Senior Researcher: Oct. 2020 – Mar. 2023
  - Researcher: Apr. 2016 – Sep. 2020
  - Postdoctoral Fellow: Apr. 2015 – Mar. 2016
  - Research Internship: May. 2012 – Mar. 2013 (Supervisor: Dr. Yutaka Satoh, Dr. Kenji Iwata)
- Visual Geometry Group, University of Oxford (Oxford VGG)
  - Academic Visitor: Sep. 2024 – Present
- LINE / LY Corporation
  - Adjunct Researcher (LINE): Apr. 2022 – Sep. 2023
  - Adjunct Researcher (LY Corp): Oct. 2023 – Mar. 2024
- Omron Sinic X Corporation (OSX)
  - Visiting Researcher: May 2018 – Mar. 2020
- The University of Tokyo
  - JSPS Postdoctoral Fellow: Apr. 2014 – Mar. 2015
  - Supervisor : Prof. Masamichi Shimosaka
- Technische Universitat Munchen (TUM)
  - Visiting Scientist: Sep. 2014 – Nov. 2014 (Prof. Nassir Navab, Dr. Slobodan Ilic, Dr. Federico Tombari)
  - Visiting Scientist: Jul. 2013 – Sep. 2013 (Prof. Nassir Navab, Dr. Slobodan Ilic)
- Keio University
  - JSPS Research Fellow: Apr. 2013 – Mar. 2014
  - Supervisor: Prof. Yoshimitsu Aoki
- University of California, Riverside (UCR)
  - Visiting Scholar: Aug. 2011 – Feb. 2012 (Supervisor : Prof. Bir Bhanu)

3. Education

- Keio University
  - Ph.D. Candidate: Apr. 2011 – Mar. 2014
  - Master course: Apr. 2009 – Mar. 2011

    - Supervisor: Prof. Yoshimitsu Aoki
- Shibaura Institute of Technology (SIT)
    - Bachelor course: Apr. 2005 – Mar. 2009
- Midorioka High School
    - High School Student: Apr. 2002 – Mar 2005

4. Journals

1. Kazuhide Mimura, Takuya Itaki, Hirokatsu Kataoka, Ayumu Miyakawa, “Classifying microfossil radiolarians on fractal pre-trained vision transformers”, Scientific Reports, 2025, URL: https://www.nature.com/articles/s41598-025-90988-z.
2. Koshi Makihara, Yukiyasu Domae, Ryo Hanai, Ixchel G. Ramirez-Alpizar, Hirokatsu Kataoka, Kensuke Harada, “Deformability-Based Grasp Pose Detection From a Visible Image,” IEEE Access, 2024, URL: https://ieeexplore.ieee.org/abstract/document/10776971.
3. Ryosuke Yamada,Ryu Tadokoro,Yue Qiu,Hirokatsu Kataoka,Yutaka Satoh, “Masked Structural Point Cloud Modeling for Learning 3D Representation,” IEEE Access, 2024, URL: https://ieeexplore.ieee.org/document/10700714.
4. Guoqing Hao, Satoshi Iizuka, Kensho Hara, Hirokatsu Kataoka, Kazuhiro Fukui, “Natural Image Decay With a Decay Effects Generator”, IEEE Access, 2023, URL: https://ieeexplore.ieee.org/document/10298210
5. Kodai Nakashima, Hirokatsu Kataoka, Yutaka Satoh, “Does Formula-Driven Supervised Learning Work on Small Datasets?”, IEEE Access, 2023, URL: https://ieeexplore.ieee.org/document/10266324
6. Yanjun Sun, Yue Qiu, Yoshimitsu Aoki, Hirokatsu Kataoka, “Outdoor Vision-and-Language Navigation Needs Object-level Alignment”, Sensors, 2023, URL: https://www.mdpi.com/1424-8220/23/13/6028
7. Hirokatsu Kataoka, Kazushige Okayasu, Asato Matsumoto, Eisuke Yamagata, Ryosuke Yamada, Nakamasa Inoue, Akio Nakamura, Yutaka Satoh, “Pre-training without Natural Images”, International Journal of Computer Vision (IJCV), 2022, URL: https://link.springer.com/article/10.1007/s11263-021-01555-8
8. Kensho Hara, Hirokatsu Kataoka, Masaki Inaba, Kenichi Narioka, Ryusuke Hotta, Yutaka Satoh, “Predicting Appearance of Vehicles from Blind Spots Based on Pedestrian Behaviors at Crossroads”, IEEE Transactions on Intelligent Transportation Systems (T-ITS), no.9, pp.1-13, 2021, URL: https://ieeexplore.ieee.org/document/9531560
9. Shintaro Yamamoto, Ryota Suzuki, Tsukasa Fukusato, Hirokatsu Kataoka, Shigeo Morishima, “A Case Study on User Evaluation of Scientific Publication Summarization by Japanese Students”, Applied Sciences, 11(14), 6287, 2021, URL: https://www.mdpi.com/2076-3417/11/14/6287
10. Hideki Tsunashima, Kosuke Arase, Antony Lam, Hirokatsu Kataoka, “UVIRT—Unsupervised Virtual Try-on Using Disentangled Clothing and Person Features”, Sensors, 20(19), 5647, 2020, URL: https://www.mdpi.com/1424-8220/20/19/5647
11. Yue Qiu, Yutaka Satoh, Ryota Suzuki, Kenji Iwata, Hirokatsu Kataoka, “Indoor Scene Change Captioning based on Multi-modality Data”, Sensors, 2020, URL: https://www.mdpi.com/1424-8220/20/17/4761
12. Yue Qiu, Yutaka Satoh, Ryota Suzuki, Kenji Iwata, Hirokatsu Kataoka, “Multi-view Visual Question Answering with Active Viewpoint Selection”, Sensors, 2020, URL: https://www.mdpi.com/1424-8220/20/8/2281
13. Yue Qiu, Yutaka Satoh, Ryota Suzuki, Kenji Iwata, Hirokatsu Kataoka, “3D-Aware Scene Change Captioning from Multiview Images”, IEEE Robotics and Automation Letters (RA-L) with IROS presentation, 2020, URL: https://ieeexplore.ieee.org/abstract/document/9120195
14. Hirokatsu Kataoka、Yutaka Satoh、Yoshimitsu Aoki、Shoko Oikawa、Yasuhiro Matsui, “Temporal and Fine-grained Pedestrian Action Recognition on Driving Recorder Database”、Sensors、18(2)、627、2018, URL: https://www.mdpi.com/1424-8220/18/2/627
15. Yudai Miyashita, Hirokatsu Kataoka, Akio Nakamura, ”Analyzing Fine Motion Considering Individual Habits for Appearance-based Proficiency Evaluation”, IEICE Transactions on Information and Systems, Vol.E100-D, No.1., pp.166-174, 2017, URL: https://www.jstage.jst.go.jp/article/transinf/E100.D/1/E100.D_2016EDP7138/_article/-char/ja/
16. Hirokatsu Kataoka, Kimimasa Tamura, Yasuhiro Matsui, Yoshimitsu Aoki, “Extended Feature Descriptor and Vehicle Motion Model with Tracking-by-detection for Pedestrian Active Safety”,

IEICE Trans. On Information and Systems, Vol.97, No.2, pp.296-304, 2014, URL: https://www.jstage.jst.go.jp/article/transinf/E97.D/2/E97.D_296/_article/-char/ja

17. Hirokatsu Kataoka, Yoshimitsu Aoki, Yasuhiro Matsui, "Symmetrical Judgment Area Reduction and ECoHOG Feature Descriptor for Pedestrian Detection", International Journal of Vehicle Safety, vol.6, no.1, pp.48-60, 2012, URL: https://www.inderscience.com/info/inarticle.php?artid=48548

5. Proceedings

1. Erika Mori, Yue Qiu, Hirokatsu Kataoka, Yoshimitsu Aoki, "Leveraging LLMs with Iterative Loop Structure for Enhanced Social Intelligence in Video Question Answering", arXiv pre-print:2503.21190, 2025, URL: https://arxiv.org/abs/2503.21190.
2. Shinichi Mae, Hirokatsu Kataoka, "Efficient Palletized Load Collision Detection with Limited Data," SII, 2025. (SICE International Young Authors Award)
3. Yuto Matsuo, Ryo Hayamizu, Hirokatsu Kataoka, Akio Nakamura, "MoireDB: Formula-generated Interference-fringe Image Dataset," arXiv pre-print 2502.01490, 2025, URL: https://arxiv.org/abs/2502.01490.
4. Kohei Torimi, Ryosuke Yamada, Daichi Otsuka, Kensho Hara, Yuki M. Asano, Hirokatsu Kataoka, Yoshimitsu Aoki, "Text-guided Synthetic Geometric Augmentation for Zero-shot 3D Understanding," arXiv pre-print, arXiv:2501.09278, 2025, URL: https://arxiv.org/abs/2501.09278.
5. Erika Mori, Yue Qiu, Hirokatsu Kataoka, Yoshimitsu Aoki, "A Comprehensive Analysis of a Social Intelligence Dataset and Response Tendencies Between Large Language Models (LLMs) and Humans," Sensors Journal, 2025, URL: https://www.mdpi.com/1424-8220/25/2/477.
6. Yuto Shibata, Keitaro Tanaka, Yoshiaki Bando, Keisuke Imoto, Hirokatsu Kataoka, Yoshimitsu Aoki, "Formula-Supervised Sound Event Detection: Pre-Training Without Real Data," ICASSP 2025, URL: https://ieeexplore.ieee.org/abstract/document/10888414.
7. Takumi Fukuzawa, Kensho Hara, Hirokatsu Kataoka, Toru Tamaki, "Can masking background and object reduce static bias for zero-shot action recognition?," International Conference on MultiMedia Modeling (MMM), 2025, URL: https://link.springer.com/chapter/10.1007/978-981-96-2071-5_27.
8. Shutaro Okada, Kenji Doi, Ryota Yoshihashi, Hirokatsu Kataoka, Tomohiro Tanaka, "Constant Rate Schedule: Constant-Rate Distributional Change for Efficient Training and Sampling in Diffusion Models," arXiv pre-print 2411.12188, 2024, URL: https://arxiv.org/abs/2411.12188.
9. Kenji Doi, Shutaro Okada, Ryota Yoshihashi, Hirokatsu Kataoka, "Real-SRGD: Enhancing Real-World Image Super-Resolution with Classifier-Free Guided Diffusion," Asian Conference on Computer Vision (ACCV), 2024, URL: https://openaccess.thecvf.com/content/ACCV2024/html/Doi_Real-SRGD_Enhancing_Real-World_Image_Super-Resolution_with_Classifier-Free_Guided_Diffusion_ACCV_2024_paper.html.
10. Ryota Yoshihashi, Yuya Otsuka, Kenji Doi, Tomohiro Tanaka, Hirokatsu Kataoka, "Exploring Limits of Diffusion-Synthetic Training with Weakly Supervised Semantic Segmentation," Asian Conference on Computer Vision (ACCV), 2024, URL: https://openaccess.thecvf.com/content/ACCV2024/html/Yoshihashi_Exploring_Limits_of_Diffusion-Synthetic_Training_with_Weakly_Supervised_Semantic_Segmentation_ACCV_2024_paper.html.
11. Fumiya Matsuzawa, Yue Qiu, Yanjun Sun, Kenji Iwata, Hirokatsu Kataoka, Yutaka Satoh, "Subtle-Diff: A Dataset for Precise Recognition of Subtle Differences among Visually Similar Objects," IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2024.
12. Shinichi Mae, Ryosuke Yamada, Hirokatsu Kataoka, "Keeping Segment Mask Quality with Self-generated Masks," ECCV 2024 Workshop on Darkside of GenAIs and Beyond, 2024, URL: https://openreview.net/forum?id=Y2I9KnlsSa.
13. Ryosuke Yamada, Kensho Hara, Hirokatsu Kataoka, Koshi Makihara, Nakamasa Inoue, Rio Yokota, Yutaka Satoh, "Formula-Supervised Visual-Geometric Pre-training," European Conference on Computer Vision (ECCV), 2024, URL: https://www.ecva.net/papers/eccv_2024/papers_ECCV/html/3233_ECCV_2024_paper.php.
14. Go Ohtani, Ryu Tadokoro, Ryosuke Yamada, Yuki M Asano, Iro Laina, Christian Rupprecht, Nakamasa Inoue, Rio Yokota, Hirokatsu Kataoka, Yoshimitsu Aoki, "Rethinking Image Super Resolution from Training Data Perspectives," European Conference on Computer Vision (ECCV), 2024, URL: https://www.ecva.net/papers/eccv_2024/papers_ECCV/html/2525_ECCV_2024_paper.php.

15. Ryo Nakamura, Ryu Tadokoro, Ryosuke Yamada, Yuki M. Asano, Iro Laina, Christian Rupprecht, Nakamasa Inoue, Rio Yokota, Hirokatsu Kataoka, “Scaling Backwards: Minimal Synthetic Pretraining?,” European Conference on Computer Vision (ECCV), 2024, URL: https://arxiv.org/abs/2408.00677.
16. Shun Iwase, Eisaku Maeda, Nakamasa Inoue, Hirokatsu Kataoka, Ryo Nakamura, Rio Yokota, Shuya Takahashi, “On the Relationship Between Double Descent of CNNs and Shape/Texture Bias Under Learning Process,” ICPR 2024, URL: https://arxiv.org/abs/2503.02302.
17. Ryosuke Yamada, Ryosuke Takahashi, Go Ohtani, Erika Mori, Hirokatsu Kataoka, Yoshimitsu Aoki, “Is ImageNet Pre-training Fiar in Image Recognition?,” CVPR Workshop on Responsible Data, 2024, URL: .
18. Ryo Hayamizu, Shota Nakamura, Sora Takashima, Hirokatsu Kataoka, Ikuro Sato, Nakamasa Inoue, Rio Yokota, “SIFTer: Self-improving Synthetic Datasets for Pre-training Classification Models,” CVPR Workshop on Synthetic Dataset for Computer Vision, 2024, URL: https://openreview.net/forum?id=EvDZIcHNDo.
19. Peifei Zhu, Tsubasa Takahashi, Hirokatsu Kataoka, Watermark-embedded Adversarial Examples for Copyright Protection against Diffusion Models, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2024, URL: https://arxiv.org/abs/2404.09401.
20. Yuichi Iwasaki, Hiroko Arai, Akihiro Tamada, Hirokatsu Kataoka, “Japanese mayfly family classification with a vision transformer model”, EcoEvoRxiv, 2024, URL: https://ecoevorxiv.org/repository/view/6695/.
21. Yanjun Sun, Yue Qiu, Yoshimitsu Aoki, Hirokatsu Kataoka, “Guided by the Way: The Role of On-the-route Objects and Scene Text in Enhancing Outdoor Navigation”, ICRA 2024, URL: https://ieeexplore.ieee.org/document/10611727/.
22. Ryo Nakamura, Ryu Tadokoro, Eisuke Yamagata, Yusuke Kondo, Kensho Hara, Hirokatsu Kataoka, Nakamasa Inoue　Pseudo-outlier synthesis using q-Gaussian distributions for out-of-distribution detection, ICASSP 2024, URL: https://2024.ieeeicassp.org/
23. Yuchi Ishikawa, Masayoshi Kondo, Hirokatsu Kataoka, “Learnable Cube-Based Video Encryption for Privacy-Preserving Action Recognition”, WACV, 2024, URL: https://openaccess.thecvf.com/content/WACV2024/html/Ishikawa_Learnable_Cube-Based_Video_Encryption_for_Privacy-Preserving_Action_Recognition_WACV_2024_paper.html
24. Guoqing Hao, Satoshi Iizuka, Kensho Hara, Edgar Simo-Serra, Hirokatsu Kataoka, Kazuhiro Fukui, “Diffusion-based Texture Rectification and Synthesis”, SIGGRAPH Asia, 2023, URL: https://arxiv.org/abs/2309.14759
25. Yamato Okamoto, Osada Genki, Iu Yahiro, Rintaro Hasegawa, Peifei Zhu, Hirokatsu Kataoka, “Image Generation and Learning Strategy for Deep Document Forgery Detection” arXiv pre-print:2311.03650, 2023, URL: https://arxiv.org/abs/2311.03650
26. Ryu Tadokoro, Ryosuke Yamada, Kodai Nakashima, Ryo Nakamura, Hirokatsu Kataoka, “Primitive Geometry Segment Pre-training for 3D Medical Image Segmentation”, British Machine Vision Conference (BMVC), 2023 (Oral Presentation), URL: https://papers.bmvc2023.org/0152.pdf
27. Gido Kato, Yoshihiro Fukuhara, Mariko Isogawa, Hideki Tsunashima, Hirokatsu Kataoka, Shigeo Morishima, “Scapegoat Generation for Privacy Protection from Deepfake”, International Conference on Image Processing (ICIP), 2023, URL: https://arxiv.org/abs/2303.02930
28. Yamato Okamoto, Haruto Toyonaga, Yoshihisa Ijiri, Hirokatsu Kataoka, “Constructing Image-Text Pair Dataset from Books”, ICCV 2023 Workshop on Towards the Next Generation of Computer Vision Datasets: DataComp Track, 2023, URL: https://arxiv.org/abs/2310.01936
29. Shuhei Yokoo, Peifei Zhu, Yuchi Ishikawa, Mikihiro Tanaka, Masayoshi Kondo, Hirokatsu Kataoka, “Leveraging Image-Text Similarity and Caption Modification for the Datacomp Challenge: Filtering Track and BYOD Track”, ICCV 2023 Workshop on Towards the Next Generation of Computer Vision Datasets: DataComp Track, 2023, URL: https://arxiv.org/abs/2310.14581
30. Risa Shinoda, Ryo Hayamizu, Kodai Nakashima, Nakamasa Inoue, Rio Yokota, Hirokatsu Kataoka, “SegRCDB: Semantic Segmentation via Formula-Driven Supervised Learning”, International Conference on Computer Vision (ICCV), 2023, URL: https://openaccess.thecvf.com/content/ICCV2023/html/Shinoda_SegRCDB_Semantic_Segmentation_via_Formula-Driven_Supervised_Learning_ICCV_2023_paper.html
31. Ryo Nakamura, Hirokatsu Kataoka, Sora Takashima, Edgar Josafat Martinez Noriega, Rio Yokota, Nakamasa Inoue, “Pre-training Vision Transformers with Very Limited Synthesized Images”,

International Conference on Computer Vision (ICCV), 2023, URL:
https://openaccess.thecvf.com/content/ICCV2023/html/Nakamura_Pre-training_Vision_Transformers_with_Very_Limited_Synthesized_Images_ICCV_2023_paper.html
32. Peifei Zhu, Genki Osada, Hirokatsu Kataoka, Tsubasa Takahashi, "Frequency-aware GAN for Adversarial Manipulation Generation", International Conference on Computer Vision (ICCV), 2023, URL:
https://openaccess.thecvf.com/content/ICCV2023/html/Zhu_Frequency-aware_GAN_for_Adversarial_Manipulation_Generation_ICCV_2023_paper.html
33. Shota Nishiyama, Takuma Saito, Ryo Nakamura, Go Ohtani, Hirokatsu Kataoka, Kensho Hara, "Traffic Incident Database with Multiple Labels Including Various Perspective Environmental Information", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2023, URL:
https://arxiv.org/abs/2312.10737
34. Yue Qiu, Yanjun Sun, Fumiya Matsuzawa, Kenji Iwata, Hirokatsu Kataoka, "Graph Representation for Order-aware Visual Transformation", IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023, URL:
https://openaccess.thecvf.com/content/CVPR2023/html/Qiu_Graph_Representation_for_Order-Aware_Visual_Transformation_CVPR_2023_paper.html
35. Sora Takashima, Ryo Hayamizu, Nakamasa Inoue, Hirokatsu Kataoka, Rio Yokota, "Visual Atoms: Pre-training Vision Transformers with Sinusoidal Waves", IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), 2023, URL:
https://openaccess.thecvf.com/content/CVPR2023/html/Takashima_Visual_Atoms_Pre-Training_Vision_Transformers_With_Sinusoidal_Waves_CVPR_2023_paper.html
36. Ryu Tadokoro, Ryosuke Yamada, Hirokatsu Kataoka, "Pre-training Auto-generated Volumetric Shapes for 3D Medical Image Segmentation", CVPR 2023 Workshop on Efficient Deep Learning for Computer Vision, 2023, URL:
https://openaccess.thecvf.com/content/CVPR2023W/ECV/html/Tadokoro_Pre-Training_Auto-Generated_Volumetric_Shapes_for_3D_Medical_Image_Segmentation_CVPRW_2023_paper.html
37. Risa Shinoda, Ko Motoki, Kensho Hara, Hirokatsu Kataoka, Ryohei Nakano, Tetsuya Nakazaki, Ryozo Noguchi, "A dataset and system for automated rose growth monitoring", CVPR 2023 Workshop on Women in Computer Vision, 2023.
38. Ryosuke Yamada, Risa Shinoda, Hirokatsu Kataoka, "Exploring the Potential of Neural Dataset Search", CVPR 2023 Workshop on Neural Architecture Search, 2023, URL:
https://openaccess.thecvf.com/content/CVPR2023W/NAS/html/Yamada_Exploring_the_Potential_of_Neural_Dataset_Search_CVPRW_2023_paper.html
39. Fumiya Matsuzawa, Yue Qiu, Kenji Iwata, Hirokatsu Kataoka, Yutaka Satoh, "Question Generation for Uncertainty Elimination of Referring Expression in 3D Environment", IEEE International Conference on Robotics and Automation (ICRA), 2023, URL: https://ieeexplore.ieee.org/document/10160386
40. Yue Qiu, Yoshiki Nagasaki, Kensho Hara, Hirokatsu Kataoka, Ryota Suzuki, Kenji Iwata, Yutaka Satoh, "VirtualHome Action Genome: A Simulated Spatio-Temporal Scene Graph Dataset with Consistent Relationship Labels", IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), URL:
https://openaccess.thecvf.com/content/WACV2023/html/Qiu_VirtualHome_Action_Genome_A_Simulated_Spatio-Temporal_Scene_Graph_Dataset_With_WACV_2023_paper.html
41. Yue Qiu, Shintaro Yamamoto, Ryosuke Yamada, Ryota Suzuki, Hirokatsu Kataoka, Kenji Iwata, Yutaka Satoh, "3D Change Localization and Captioning from Dynamic Scans of Indoor Scenes", IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), URL:
42. Itsuki Ueda, Yoshihiro Fukuhara, Hirokatsu Kataoka, Hiroaki Aizawa, Hidehiko Shishido, Itaru Kitahara, "Neural Density-Distance Fields", European Conference on Computer Vision (ECCV), 2022, URL:
https://arxiv.org/pdf/2207.14455.pdf
43. Risa Shinoda, Hirokatsu Kataoka, Kensho Hara, "Tomato's Ripeness Segmentor with Transformers", Agriculture-Vision: 3rd International Workshop and Prize Challenge at CVPR 2022, URL:
https://www.agriculture-vision.com/
44. Hirokatsu Kataoka, Ryo Hayamizu, Ryosuke Yamada, Kodai Nakashima, Sora Takashima, Xinyu Zhang, Edgar Josafat Martinez-Noriega, Nakamasa Inoue, Rio Yokota, "Replacing Labeled Real-image Datasets with Auto-generated Contours", IEEE/CVF International Conference on Computer Vision and Pattern Recognition (CVPR), 2022, URL:

https://openaccess.thecvf.com/content/CVPR2022/html/Kataoka_Replacing_Labeled_Real-Image_Datasets_With_Auto-Generated_Contours_CVPR_2022_paper.html

45. Ryosuke Yamada*, Hirokatsu Kataoka*, Naoya Chiba, Yukiyasu Domae Tetsuya Ogata, “Point Cloud Pre-training with Natural 3D Structures”, IEEE/CVF International Conference on Computer Vision and Pattern Recognition (CVPR), 2022, URL: https://openaccess.thecvf.com/content/CVPR2022/html/Yamada_Point_Cloud_Pre-Training_With_Natural_3D_Structures_CVPR_2022_paper.html
46. Shunsuke Kogure, Kai Watabe, Ryosuke Yamada, Yoshimitsu Aoki, Akio Nakamura, Hirokatsu Kataoka, “Age Should Not Matter: Towards More Accurate Pedestrian Detection via Self-Training”, Computer Sciences & Mathematics Forum (AAAI 2022 Workshop), 2022, URL: https://www.mdpi.com/2813-0324/3/1/11/htm
47. Yue Qiu, Kodai Nakashima, Yutaka Satoh, Ryota Suzuki, Kenji Iwata, Hirokatsu Kataoka, "Scene Change Captioning in Real Scenarios", HCI International, 2022, URL: https://dl.acm.org/doi/abs/10.1007/978-3-031-05643-7_26
48. Kodai Nakashima, Hirokatsu Kataoka, Asato Matsumoto, Kenji Iwata, Nakamasa Inoue, Yutaka Satoh, "Can Vision Transformers Learn without Natural Images?", AAAI Conference on Artificial Intelligence, 2022, URL: https://arxiv.org/abs/2103.13023
49. Hirokatsu Kataoka, Eisuke Yamagata, Kensho Hara, Ryusuke Hayashi, Nakamasa Inoue, "Spatiotemporal Initialization for 3D CNNs with Generated Motion Patterns", IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2022, URL: https://openaccess.thecvf.com/content/WACV2022/html/Kataoka_Spatiotemporal_Initialization_for_3D_CNNs_With_Generated_Motion_Patterns_WACV_2022_paper.html
50. Hirokatsu Kataoka, Asato Matsumoto, Eisuke Yamagata, Ryosuke Yamada, Nakamasa Inoue, Yutaka Satoh, "Formula-driven Supervised Learning with Recursive Tiling Patterns", ICCV 2021 Workshop on Human-centric Trustworthy Computer Vision: From Research to Applications, 2021, URL: https://openaccess.thecvf.com/content/ICCV2021W/HTCV/papers/Kataoka_Formula-Driven_Supervised_Learning_With_Recursive_Tiling_Patterns_ICCVW_2021_paper.pdf
51. Yue Qiu*, Shintaro Yamamoto*, Kodai Nakashima, Ryota Suzuki, Kenji Iwata, Hirokatsu Kataoka, Yutaka Satoh, "Describing and Localizing Multiple Changes with Transformers", International Conference on Computer Vision (ICCV), 2021, URL: https://openaccess.thecvf.com/content/ICCV2021/papers/Qiu_Describing_and_Localizing_Multiple_Changes_With_Transformers_ICCV_2021_paper.pdf
52. Ryosuke Yamada, Ryo Takahashi, Ryota Suzuki, Akio NAKAMURA, Yusuke Yoshiyasu, Ryusuke Sagawa, Hirokatsu Kataoka,, "MV-FractalDB: Formula-driven Supervised Learning for Multi-view Image Recognition", IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2021, URL: https://ieeexplore.ieee.org/document/9635946
53. Shintaro Yamamoto, Ryota Suzuki, Hirokatsu Kataoka, Shigeo Morishima, "Comprehending Research Article in Minutes: A User Study of Reading Computer Generated Summary for Young Researchers", International Conference on Human-Computer Interaction (HCI International), 2021, URL: https://drive.google.com/file/d/15kQMi5S6kwKa-_NEbIT5To3IOdyZKaBs/view?usp=sharing
54. Shunsuke Kogure, Kai Watabe, Ryosuke Yamada, Yoshimitsu Aoki, Akio Nakamura, Hirokatsu Kataoka, "Robust Self-Trained Person Detection for Vulnerable Road Users", CVPR 2021 Workshop on Beyond Fairness: Towards a Just, Equitable, and Accountable Computer Vision (BeyondFairCV) , 2021, URL: https://drive.google.com/file/d/15kQMi5S6kwKa-_NEbIT5To3IOdyZKaBs/view?usp=sharing
55. Kensho Hara, Yuchi Ishikawa, Hirokatsu Kataoka, "Rethinking Training Data for Mitigating Representation Biases in Action Recognition", CVPR 2021 Workshop on Large Scale Holistic Video Understanding, 2021, URL: https://openaccess.thecvf.com/content/CVPR2021W/HVU/html/Hara_Rethinking_Training_Data_for_Mitigating_Representation_Biases_in_Action_Recognition_CVPRW_2021_paper.html
56. Yuchi Ishikawa, Seito Kasai, Yoshimitsu Aoki, Hirokatsu Kataoka, "Alleviating Over-segmentation Errors by Detecting Action Boundaries", Winter Conference on Applications of Computer Vision (WACV), 2021, URL: https://openaccess.thecvf.com/content/WACV2021/html/Ishikawa_Alleviating_Over-Segmentation_Errors_by_Detecting_Action_Boundaries_WACV_2021_paper.html

57. Hiroaki Aizawa, Hirokatsu Kataoka, , "View-agnostic Image Rendering", Winter Conference on Applications of Computer Vision (WACV), 2021, URL: https://openaccess.thecvf.com/content/WACV2021/papers/Aizawa_Viewpoint-Agnostic_Image_Rendering_WACV_2021_paper.pdf
58. Hirokatsu Kataoka, Kazushige Okayasu, Asato Matsumoto, Eisuke Yamagata, Ryosuke Yamada, Nakamasa Inoue, Akio Nakamura, Yutaka Satoh, "Pre-training without Natural Images", Asian Conference on Computer Vision (ACCV), 2020, URL: https://openaccess.thecvf.com/content/ACCV2020/papers/Kataoka_Pre-training_without_Natural_Images_ACCV_2020_paper.pdf
59. Nakamasa Inoue, Eisuke Yamagata, Hirokatsu Kataoka, "Initialization Using Perlin Noise for Training Networks with a Limited Amount of Data", International Conference on Pattern Recognition (ICPR), 2020, URL: https://ieeexplore.ieee.org/document/9412955
60. Takehiko Ohkawa, Naoto Inoue, Hirokatsu Kataoka, Nakamasa Inoue, "Augmented Cyclic Consistency Regularization for Unpaired Image-to-Image Translation", International Conference on Pattern Recognition (ICPR), 2020, URL: https://ieeexplore.ieee.org/abstract/document/9412082
61. Hideki Tsunashima, Shigeo Morishima, Junji Yamato, Qiu Chen, Hirokatsu Kataoka, "Adversarial Knowledge Distillation for a Compact Generator", International Conference on Pattern Recognition (ICPR), 2020, URL: https://ieeexplore.ieee.org/document/9413150
62. Hiroaki Aizawa, Hirokatsu Kataoka, Yutaka Satoh, Kunihito Kato, "Disentangle, Assemble, and Synthesize: Unsupervised Learning to Disentangle Appearance and Location", International Conference on Pattern Recognition (ICPR), 2020, URL: https://ieeexplore.ieee.org/document/9413032
63. Seito Kasai, Yuchi Ishikawa, Masaki Hayashi, Yoshimitsu Aoki, Kensho Hara, Hirokatsu Kataoka, "Retrieving and Highlighting Action with Spatiotemporal Reference", IEEE International Conference on Image Processing (ICIP), 2020, URL: https://ieeexplore.ieee.org/abstract/document/9190820
64. Kensho Hara, Hirokatsu Kataoka, Masaki Inaba, Kenichi Narioka, Ryusuke Hotta, Yutaka Satoh, "Predicting Vehicles Appearing from Blind Spots Based on Pedestrian Behaviors", IEEE Intelligent Transportation Systems Conference (ITSC), 2020, URL: https://ieeexplore.ieee.org/document/9294443
65. Hirokatsu Kataoka, Teppei Suzuki, Kodai Nakashima, Yutaka Satoh, Yoshimitsu Aoki, "Joint Pedestrian Detection and Risk-level Prediction with Motion-Representation-by-Detection", International Conference on Robotics and Automation (ICRA), 2020, URL: https://ieeexplore.ieee.org/document/9197399
66. Ryota Suzuki, Kota Yoshida, Munetaka Minoguchi, Kazuki Tsubura, Takumu Ikeya, Akio Nakamura, Hirokatsu Kataoka, "Joking AI via Visual Cues", Human Computer Interaction International 2020, URL : https://link.springer.com/chapter/10.1007/978-3-030-50334-5_29
67. Hirokatsu Kataoka, Kaori Abe, Munetaka Minoguchi, Akio Nakamura, Yutaka Satoh, "Ten-million-order Human Database for World-wide Fashion Culture Analysis", in IEEE/CVF International Conferences on Computer Vision and Pattern Recognition (CVPR) 2019 Workshop on Understanding Subjective Attributes of Data, Focus on Fashion and Subjective Search (FFSS-USAD), 2019, URL: https://openaccess.thecvf.com/content_CVPRW_2019/html/FFSS-USAD/Kataoka_Ten-Million-Order_Human_Database_for_World-Wide_Fashion_Culture_Analysis_CVPRW_2019_paper.html
68. Hirokatsu Kataoka, Yutaka Satoh, "Unsupervised Out-of-context Action Understanding", IEEE International Conference on Robotics and Automation (ICRA), 2019, URL: https://ieeexplore.ieee.org/document/8793709
69. Yue Qiu, Yutaka Satoh, Hirokatsu Kataoka, Ryota Suzuki, "Incorporating 3D Information Into Visual Question Answering", International Conference on 3D Vision (3DV), 2019, URL: https://ieeexplore.ieee.org/document/8885753
70. Hirokatsu Kataoka, Shuhei Ohki, Kenji Iwata, Yutaka Satoh, "Occlusion Handling Human Detection with Refocused Images", International Conference on Pattern Recognition (ICPR), pp.1701-1706, 2018, URL: https://ieeexplore.ieee.org/document/8545311
71. Tomoyuki Suzuki, Hirokatsu Kataoka, Yoshimitsu Aoki, Yutaka Satoh, "Anticipating Traffic Accidents with Adaptive Loss and Large-scale Incident DB", IEEE/CVF International Conferences on Computer Vision and Pattern Recognition (CVPR), pp.3521-3529, 2018, URL: https://openaccess.thecvf.com/content_cvpr_2018/CameraReady/0494.pdf

72. Hirokatsu Kataoka, Teppei Suzuki, Shoko Oikawa, Yasuhiro Matsui, Yutaka Satoh, "Drive Video Analysis for the Detection of Traffic Near-Miss Incidents", IEEE International Conference on Robotics and Automation (ICRA), 2018, URL: https://ieeexplore.ieee.org/document/8460812
73. Naofumi Akimoto, Hirokatsu Kataoka, Yoshimitsu Aoki, "Generating Effect Animation with Conditional GANs", SIGGRAPH Asia 2018 Posters, 2018, URL: https://dl.acm.org/doi/10.1145/3283289.3283323
74. Shintaro Yamamoto, Yoshihiro Fukuhara, Ryota Suzuki, Shigeo Morishima, Hirokatsu Kataoka, "Automatic Paper Summary Generation from Visual and Textual Information", International Conference on Machine Vision (ICMV), 2018, URL: https://arxiv.org/abs/1811.06943
75. Kaori Abe, Munetaka Minoguchi, Teppei Suzuki, Tomoyuki Suzuki, Naofumi Akimoto, Yue Qiu, Ryota Suzuki, Kenji Iwata, Yutaka Satoh, Hirokatsu Kataoka, "Fashion Culture Database: Construction of Database for World-wide Fashion Analysis", IEEE ICARCV, pp.1721-1726 2018, URL: https://ieeexplore.ieee.org/document/8581148
76. Tomoyuki Suzuki, Munetaka Minoguchi, Ryota Suzuki, Akio Nakamura, Kenji Iwata, Yutaka Satoh, Hirokatsu Kataoka, "Semantic Change Detection", IEEE ICARCV, pp.1785-1790 2018, URL: https://ieeexplore.ieee.org/document/8581264
77. Tomoyuki Suzuki, Takahiro Itazuri, Kensho Hara, Hirokatsu Kataoka, "Learning Spatiotemporal 3D Convolution with Video Order Self-Supervision", ECCV 2018 Workshop on Person in Context (PIC), pp.590-598, 2018, URL: https://openaccess.thecvf.com/content_eccv_2018_workshops/w12/html/Suzuki_Learning_Spatiotemporal_3D_Convolution_with_Video_Order_Self-Supervision_ECCVW_2018_paper.html
78. Ryota Natsume, Kazuki Inoue, Shintaro Yamamoto, Yoshihiro Fukuhara, Shigeo Morishima, Hirokatsu Kataoka, "Understanding Fake-Faces", ECCV 2018 Workshop on Brain-Driven Computer Vision (BDCV), pp.566-576, 2018, URL: https://openaccess.thecvf.com/content_ECCVW_2018/papers/11131/Natsume_Understanding_Fake_Faces_ECCVW_2018_paper.pdf
79. Kensho Hara, Hirokatsu Kataoka, Yutaka Satoh, "Towards Good Practice for Action Recognition with Spatiotemporal 3D Convolutions", International Conference on Pattern Recognition (ICPR), pp.2516-2521, 2018, URL: https://ieeexplore.ieee.org/document/8546325
80. Yue Qiu, Fangge Chen, Shuhei Oki, Hirokatsu Kataoka, "Image generation associated with music data", in IEEE/CVF International Conferences on Computer Vision and Pattern Recognition (CVPR) Workshop on Sight and Sound (WSS), pp.2510-2513, 2018, URL: https://openaccess.thecvf.com/content_cvpr_2018_workshops/papers/w49/Qiu_Image_Generation_Associated_CVPR_2018_paper.pdf
81. Kota Yoshida, Munetaka Minoguchi, Kenichiro Wani, Akio Nakamura, Hirokatsu Kataoka, "Neural Joking Machine: An image captioning for a humor", IEEE/CVF International Conferences on Computer Vision and Pattern Recognition (CVPR) Language and Vision Workshop, 2018, URL: https://arxiv.org/abs/1805.11850
82. Kensho Hara, Hirokatsu Kataoka, Yutaka Satoh, "Can Spatiotemporal 3D CNNs Retrace the History of 2D CNNs and ImageNet?", IEEE/CVF International Conferences on Computer Vision and Pattern Recognition (CVPR), pp.6546-6555, 2018, URL: https://openaccess.thecvf.com/content_cvpr_2018/papers/Hara_Can_Spatiotemporal_3D_CVPR_2018_paper.pdf
83. Fangge Chen, Hirokatsu Kataoka, Yutaka Satoh, "Text Detection in Traffic Informatory Signs Using Synthetic Data", International Conference on Document Analysis and Recognition (ICDAR 2017), pp.851-858, 2017, URL: https://ieeexplore.ieee.org/document/8270075
84. Kensho Hara, Hirokatsu Kataoka, Yutaka Satoh, "Learning Spatio-Temporal Features with 3D Residual Networks for Action Recognition", International Conference on Computer Vision (ICCV) 2017 Workshop on ChaLearn Looking at People, pp.3154-3160, 2017, URL: https://openaccess.thecvf.com/content_ICCV_2017_workshops/papers/w44/Hara_Learning_Spatio-Temporal_Features_ICCV_2017_paper.pdf
85. Yuta Matsuzaki, Kazushige Okayasu, Akio Nakamura, Hirokatsu Kataoka, "Generated Motion Maps", in submission to IEEE/CVF International Conferences on Computer Vision and Pattern Recognition (CVPR) 2017 Workshop on Brave New Ideas for Motion Representations in Videos (BNMW), 2017, URL: https://openreview.net/forum?id=S1ybBMw-W

86. Teppei Suzuki, Yoshimitsu Aoki, Hirokatsu Kataoka, "Pedestrian Near-Miss Analysis on Vehicle-Mounted Driving Recorders", IAPR Conference on Machine Vision Applications (MVA2017), pp.386-389, 2017, URL: https://ieeexplore.ieee.org/document/7986889
87. Yuta Matsuzaki, Kazushige Okayasu, Takaaki Imanari, Naomichi Kobayashi, Yoshihiro Kanehara, Ryousuke Takasawa, Akio Nakamura, Hirokatsu Kataoka, "Could you guess an interesting movie from the posters?: An evaluation of vision-based features on movie poster database", IAPR Conference on Machine Vision Applications (MVA2017), pp.508-511, 2017, URL: https://ieeexplore.ieee.org/document/7986919
88. Hirokatsu Kataoka, Yun He, Soma Shirakabe, Yutaka Satoh, "Motion Representation with Acceleration Images", ECCV 2016 Workshop, pp.18-24, 2016, URL: https://openreview.net/forum?id=S1tBNiXj
89. Hirokatsu Kataoka, Yudai Miyashita, Masaki Hayashi, Kenji Iwata, Yutaka Satoh, "Recognition of Transitional Action for Short-Term Action Prediction using Discriminative Temporal CNN Feature", British Machine Vision Conference (BMVC), pp.12.1-12.12, 2016, URL: http://www.bmva.org/bmvc/2016/papers/paper012/index.html
90. Hirokatsu Kataoka, Masaki Hayashi, Kenji Iwata, Yutaka Satoh, Yoshimitsu Aoki, Slobodan Ilic, "Dominant Codewords Selection with Topic Model for Action Recognition", IEEE/CVF International Conferences on Computer Vision and Pattern Recognition (CVPR) 2016 Workshop on ChaLearn Looking at People, pp.65-72, 2016, URL: https://openaccess.thecvf.com/content_cvpr_2016_workshops/w18/papers/Kataokai_Dominant_Codewords_Selection_CVPR_2016_paper.pdf
91. Yun He, Soma Shirakabe, Yutaka Satoh, Hirokatsu Kataoka, "Human Action Recognition without Human", ECCV 2016 Workshop on Brave New Ideas for Motion Representations in Videos (BNMW), 2016, URL: https://openreview.net/forum?id=ryeujDzo
92. Hirokatsu Kataoka, Kenji Iwata, Yoshimitsu Aoki, Yutaka Satoh, "Evaluation of Vision-based Human Activity Recognition in Dense Trajectory Framework", 11th International Symposium on Visual Computing (ISVC), 2015, URL: https://link.springer.com/chapter/10.1007/978-3-319-27857-5_57
93. Tomoaki Yamabe, Yudai Miyashita, Shin'ichi Sato, Yudai Yamamoto, Akio Nakamura, Hirokatsu Kataoka, "What is an Effective Feature for a Detection Problem? -Feature Evaluation in Multiple Scenes-", IEEE International Conference on Systems, Man, and Cybernetics (SMC), 2015, URL: https://www.semanticscholar.org/paper/What-is-an-Effective-Feature-for-a-Detection-in-Yamabe-Miyashita/c75f71fce33f81318a9d850f21153dba157894a5
94. Hirokatsu Kataoka, Yoshimitsu Aoki, Yutaka Satoh, Shoko Oikawa, Yasuhiro Matsui, "Fine-grained Walking Activity Recognition via Driving Recorder Dataset", IEEE Intelligent Transportation Systems Conference (ITSC), 2015, URL: https://ieeexplore.ieee.org/document/7313199
95. Masamichi Shimosaka, Kentaro Nishi, Junichi Sato, Hirokatsu Kataoka, "Predicting Driving Behavior Using Inverse Reinforcement Learning with Multiple Reward Functions towards Environmental Diversity", IEEE Intelligent Vehicles Symposium (IV), 2015, URL: https://ieeexplore.ieee.org/document/7225745
96. Junji Kurano, Masaki Hayashi, Taiki Yamamoto, Hirokatsu Kataoka, Masamoto Tanabiki, Junko Furuyama, Yoshimitsu Aoki, "Ball Trajectory Extraction in Team Sports Videos by Focusing on Ball Holder Candidates for a Play Search and 3D Virtual Display System", Journal of Signal Processing, Vol.19, No.4, pp.147-150, 2015, URL: https://ci.nii.ac.jp/naid/130005090480
97. Hirokatsu Kataoka, Kiyoshi Hashimoto, Kenji Iwata, Yutaka Satoh, Nassir Navab, Slobodan Ilic, Yoshimitsu Aoki, "Extended Co-occurrence HOG with Dense Trajectories for Fine-grained Activity Recognition", Asian Conference on Computer Vision (ACCV), pp.336-349, 2014, URL: https://link.springer.com/chapter/10.1007/978-3-319-16814-2_22
98. Hirokatsu Kataoka, Kiyoshi Hashimoto, Yoshimitsu Aoki, "Feature Integration with Random Forests for Real-time Human Activity Recognition", International Conference on Machine Vision (ICMV), 2014, URL: https://www.spiedigitallibrary.org/conference-proceedings-of-spie/9445/944506/Feature-integration-with-random-forests-for-real-time-human-activity/10.1117/12.2181201.short?SSO=1
99. Hirokatsu Kataoka, Yoshimitsu Aoki,"An Analysis of Edge Orientation and Magnitude in Co-occurrence Feature Descriptor",SICE Annual Conference, 2014, URL: https://www.semanticscholar.org/paper/An-Analysis-of-Edge-Orientation-and-Magnitude-in-Kataoka-Aoki/0b2aec021ee17d42641d01e8aff7a68b79bc4be0

100. Hirokatsu Kataoka, Kimimasa Tamura, Kenji Iwata, Yutaka Satoh, Yasuhiro Matsui,Yoshimitsu Aoki,"Robust Feature Descriptor and Vehicle Motion Model with Tracking-by-detection for Active Safety", IEEE IECON, 2013, URL:https://ieeexplore.ieee.org/document/6699519
101. Hirokatsu Kataoka, Kenji Iwata, Yutaka Satoh, Ikushi Yoda, Masaki Onishi, Yoshimitsu Aoki, "Big Trajectory Data Analysis for Clustering and Anomaly Detection", IAPR Conference on Machine Vision Applications (MVA), pp.451-454, 2013, URL: http://www.mva-org.jp/Proceedings/2013USB/papers/14-23.pdf
102. Hirokatsu Kataoka, Kimimasa Tamura, Yasuhiro Matsui, Yoshimitsu Aoki, "Extended CoHOG and Particle Filter by Improved Motion Model for Pedestrian Active Safety", IEEE Industrial Electronics Society (IECON), 2012, URL:https://ieeexplore.ieee.org/document/6388518
103. Hirokatsu Kataoka, Kiyoshi Hashimoto, Yoshimitsu Aoki,"Player Position Estimation by Monocular Camera for Soccer Video Analysis", SICE Annual Conference, 2011, URL: https://ieeexplore.ieee.org/document/6060294
104. Hirokatsu Kataoka, Yoshimitsu Aoki,"Symmetrical Judgment and Improvement of CoHOG Feature Descriptor for Pedestrian Detection", IAPR Conference on Machine Vision Applications (MVA), 2011, URL:http://www.mva-org.jp/Proceedings/2011CD/papers/14-30.pdf
105. Hirokatsu Kataoka, Yoshimitsu Aoki, "Football Players and Ball Trajectories Projection from Single Camera's Image", Korea-Japan Joint Workshop on Frontiers of Computer Vision (FCV), 2011, URL: https://ieeexplore.ieee.org/document/5739712

6. Award / Achievement

1. SICE International Young Authors Award, SII, 2025.
2. Outstanding Reviewer Award, IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2024.
3. Best Industry Paper Finalist, British Machine Vision Conference (BMVC), 2023.
4. AIST Best Paper Award, "Pre-training without Natural Images", National Institute of Advanced Industrial Science and Technology, 2023.
5. "Can Spatiotemporal 3D CNNs Retrace the History of 2D CNNs and ImageNet?" is listed as Most Cited Paper within 5 Years in CVPR (47th out of 8800+ papers), 2023. [Link]
6. Outstanding Reviewer Award, Asian Conference on Computer Vision (ACCV) 2022.
7. MIRU Best Student Paper Award, "Lightning-fast Virtual Try-on without Paired Data and Direct Supervision", 2021.
8. ACCV 2020 Best Paper Honorable Mention Award, "Pre-training without Natural Images", Asian Federation of Computer Vision, 2020.
9. AIST Best Paper Award, "Can Spatiotemporal 3D CNNs Retrace the History of 2D CNNs and ImageNet?", National Institute of Advanced Industrial Science and Technology, 2020.
10. MIRU Best Student Paper Award, "Dynamic Fashion Cultures", 2017.
11. Best Presentation Award, "Extended CoHOG and Particle Filter by Improved Motion Model for Pedestrian Active Safety ", IEEE IECON 2012, 2012.

7. Press

1. "AI研究の最新知見、ミクロな化石の鑑定で成果　ー放散虫微化石の画像分類モデルを高精度化ー", 産総研 プレスリリース, 2025年3月6日. (https://www.aist.go.jp/aist_j/press_release/pr2025/pr20250306_2/pr20250306_2.html)
2. "数式から実画像や人的コスト不要で画像領域分割AIを自動学習ー自動運転やロボットなど産業応用に柔軟な対応が可能にー", NEDO/産総研 プレスリリース, 2023年9月29日. (https://www.aist.go.jp/aist_j/press_release/pr2023/pr20230929_2/pr20230929_2.html)
3. "コンピュータービジョン分野におけるトップカンファレンス "ICCV 2023"にて、2本の論文が採択", LINE プレスリリース, 2023年8月14日. (https://linecorp.com/ja/pr/news/ja/2023/4646)
4. "AIの学習、写真使わず人工図形で　権利リスクや手間軽減", 日本経済新聞, 2023年6月20日. (https://www.nikkei.com/article/DGXZQOCD13C0C0T10C23A6000000/)
5. "産総研の人工知能研究センターが研究開発した画像認識AI、利用開発が拡大中", マイナビニュース, 2023年6月15日. (https://news.mynavi.jp/techplus/article/20230615-2704386/)
6. "大量の実画像データの収集が不要なAIを開発ー数式からAIが自動学習、人の判断を経た学習と同程度以上の認識精度を実現ー", NEDO/産総研 プレスリリース, 2022年6月13日. (https://www.aist.go.jp/aist_j/press_release/pr2022/pr20220613/pr20220613.html)
7. "フラクタルでAIを訓練、産総研などがデータセットに代わる新提案", MIT Technology Review, 2021年2月12日. (https://www.technologyreview.jp/s/234371/fractals-can-help-ai-learn-to-see-more-clearly-or-at-least-fairly/)
8. "Unlimited computer fractals can help train AI to see", MIT Technology Review, 2021年2月4日. (https://www.technologyreview.com/2021/02/04/1017486/fractals-ai-learn-see-more-ethically-bias-imagenet-training/)
9. "コンピュータビジョン(CV)の動向2021", 技術評論社(gihyo.jp), 2021年1月4日. (https://gihyo.jp/dev/column/newyear/2021/computer-vision-trends)
10. "論文を読むこととは、cvpaper.challengeが見据える先は", AI-SCHOLAR, 2020年11月18日. (https://ai-scholar.tech/articles/interview/cvpaper.challenge0)

9. Invited Talks (Within 3 years)

1. [Research talk] Mathematics of Deep Learning, ELLIS Reading Seminar, 2025. [Link]
2. [Research talk] Google DeepMind Zurich, Jul. 2025.
3. [Research talk] MaVi Seminar, University of Bristol, Apr. 2025. [Link]

4. [Research talk] Fundamental AI Research (FunAI) Lab, Dec. 2024.
5. [Research talk] Visual Geometry Group (VGG), University of Oxford, Nov. 2023. [Link] [Slide]
6. [Research talk] Video and Image Sense Lab (VIS Lab), University of Amsterdam, Nov. 2023. [Link] [Slide]
7. [Keynote talk] International Workshop on Frontiers of Computer Vision (IW-FCV 2023), Feb. 2023. [Link] [Slide]
8. [Research talk] Sinha Lab, MIT, Feb. 2023. [Link] [Slide]

10. Academic services

- Associate Editor
  - TPAMI (as nominated)
- Area Chair
  - CVPR 2024, 2025
- Workshop Organizer
  - ICCV 2025 Workshop (Primary organizer in LIMIT, Primary advisor in FOUND)
  - CVPR 2024 Workshop (Primary organizer in LIMIT)
  - ICCV 2023 Workshop (Primary organizer in LIMIT)
  - CVPR 2021 Workshop
  - ICCV 2019 Workshop
- Reviewer (International Conferences)
  - CVPR 2021, 2022, 2023
  - ICCV 2023, 2025
  - ECCV 2022, 2024
  - AAAI 2019, 2020
  - NeurIPS 2022, 2023, 2025
  - WACV 2021, 2022, 2023, 2024 (Outstanding Reviewer Award)
  - ACCV 2020, 2022 (Outstanding Reviewer Award), 2024
  - ICRA 2021, 2022, 2023, 2024, 2025
  - IROS 2018, 2019, 2020, 2021, 2022, 2023, 2025
- Reviewer (Journals)
  - International Journal of Computer Vision (IJCV)
  - Pattern Recognition (PR)
  - Computer Vision and Image Understanding (CVIU)

11. Students, Research Assistants, Interns & Their Achievements

【Ph.D. Students】
- Yue Qiu (University of Tsukuba; w/ Yutaka Satoh)
  - 1st author: ICCV 2021, Sensors 2020 x2, IROS 2020 / RA-L 2020, 3DV 2019, CVPR 2018 Workshop
- Kodai Nakashima (University of Tsukuba; w/ Yutaka Satoh)
  - 1st author: IEEE Access 2023, AAAI 2022, CVPR 2022, ICCV 2021, ICRA 2020
  - Co-author: ICCV 2023
- Shintaro Yamamoto (Waseda University)
  - 1st author: ICCV 2021, HCII 2021, Applied Science 2020
  - Co-author: WACV 2023
- Yoshihiro Fukuhara (Waseda University)
  - 1st author: JSPE 2020
- Hideki Tsunashima (Waseda University)
  - 1st author: Sensors 2020, ICPR 2020
- Guoqing Hao (University of Tsukuba; w/ Kensho Hara)
  - 1st author: SIGGRAPH Asia 2023, IEEE Access 2023
- Ryo Nakamura (Fukuoka University)
  - 1st author: ECCV 2024, ICASSP 2024, ICCV 2023
  - Co-author: BMVC 2023 Oral, IROS 2023

- Ryosuke Yamada（University of Tsukuba）
    - 1st author: ECCV 2204, BMVC 2023 Oral, CVPR 2023 Workshop, CVPR 2022
    - Co-author: CVPR 2023 Workshop, CVPR 2022, International Journal of Computer Vision (IJCV) 2022, IROS 2021, ACCV 2020 Best Paper Honorable Mention
- Risa Shinoda（Kyoto University）
    - 1st author: ICCV 2023, CVPR 2023 Workshop
    - Co-author: CVPR 2023 Workshop
- Itsuki Ueda (University of Tsukuba)
    - 1st author: ECCV 2022
- Yanjun Sun （Keio University）
    - 1st author: ICRA 2024, Sensors 2023
- Go Ohtani （Keio University）
    - 1st author: ECCV 2024
    - Co-author: IROS 2023
- Kohei Torimi (Keio University)
    - 1st author: arXiv 2025
- Yuto Shibata (Keio University)
    - 1st author: ICASSP 2025

【Master/Undergraduate/High-school Students】
- Soma Shirakabe （University of Tsukuba w/ Yutaka Satoh）
    - Co-author: ECCV 2016 Workshop Brave New Idea
- Yun He （University of Tsukuba w/ Yutaka Satoh）
    - 1st author: ECCV 2016 Workshop Brave New Idea
- Yudai Miyashita （Tokyo Denki University）
    - Co-author: PRMU 2015 Invited Talk
- Fangge Chen （University of Tsukuba w/ Yutaka Satoh）
    - 1st author: ICDAR 2017
    - Co-author: CVPR 2018 Workshop
- Shuhei Ohki （University of Tsukuba w/ Yutaka Satoh）
    - 1st author: ICPR 2018
- Teppei Suzuki （Keio University）
    - Co-author: ICRA 2020
- Kaori Abe （Tokyo Denki University）
    - 1st author: MIRU 2017 Best Student Paper Award
- Shinichiro Morita （Tokyo Denki University）
- Tomoyuki Suzuki （Keio University）
    - 1st author: CVPR 2018
- Naofumi Akimoto （Keio University）
    - 1st author: SIGGRAPH Asia 2018 Poster
- Hiroaki Aizawa （Gifu University）
    - 1st author: WACV 2021, ICPR 2020
- Kazushige Okayasu （Tokyo Denki University）
    - Co-author: International Journal of Computer Vision (IJCV) 2022, AIST Best Paper 2022FY, ACCV 2020 Best Paper Honorable Mention
- Munetaka Minoguchi （Tokyo Denki University）
    - Co-author: SSII 2020 Invited Talk, HCII 2020, CVPR 2019 Workshop, CVPR 2018 Workshop
- Yuchi Ishikawa （Keio University）
    - 1st author: WACV 2021
    - Co-author: ICIP 2021, CVPR 2021 Workshop
- Seito Kasai （Keio University）
    - 1st author: ICIP 2021
    - Co-author: WACV 2021
- Tenga Wakamiya （Tokyo Denki University w/ Kensho Hara）
    - 1st author: CVPR 2019 Workshop, CVPR 2020 Workshop
- Asato Matsumoto （University of Tsukuba w/ Yutaka Satoh）

    - Co-author: International Journal of Computer Vision (IJCV) 2022, AIST Best Paper 2022FY, AAAI 2022, ICCV 2021 Workshop, ACCV 2020 Best Paper Honorable Mention
- Shunsuke Kogure (Keio University)
    - 1st author: AAAI 2022 Workshop
- Ryo Takahashi (Keio University)
- Ryo Hayamizu (Tokyo Denki University)
    - Co-author: ICCV 2023, CVPR 2023, MIRU 2023 Invited Talk, CVPR 2022
- Ryu Tadokoro (Tohoku University)
    - 1st author: BMVC 2023 Oral, CVPR 2023 Workshop
    - Co-author: ICASSP 2024
- Fumiya Matsuzawa (University of Tsukuba w/ Yutaka Satoh)
    - 1st author: ICRA 2022
- Shuya Takahashi (Tokyo Denki University)
    - Co-author: ICPR 2024
- Fumiya Uchiyama (The University of Tokyo)
- Erika Mori (Keio University)
- Daichi Otsuka (Tokyo Denki University w/ ALLab)
- Takumi Fukuzawa (Nagoya Institute of Technology)
- Shogo Iwakata (Waseda University)
- Kohsuke Ide (University of Tsukuba)
- Chihiro Kaneko (Tokyo Denki University)
- Noritake Kodama (Yokohama National University)
- Yuto Matsuo (Tokyo Denki University)
- Ren Ohkubo (University of Tsukuba)
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