

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
- Visual Geometry Group, University of Oxford (Oxford VGG)
 - Academic Visitor: Sep 2024 – Present
- Fundamental AI Lab (FunAI Lab), the University of Technology Nuremberg (UTN)
 - Co-supervisor: Oct 2024 – Present
- SB Intuitions
 - Visiting Researcher: May 2024 – Present
- Tokyo Denki University
 - Adjunct Associate Researcher: Apr. 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
 - Visiting Scientist: Jul. 2013 – Sep. 2013
 - Supervisor: Prof. Nassir Navab, Dr. Slobodan Ilic, Dr. Federico Tombari
- Keio University
 - JSPS Research Fellow: Apr. 2013 – Mar. 2014
 - Supervisor: Prof. Yoshimitsu Aoki
- National Institute of Advanced Industrial Science and Technology (AIST)
 - Research Internship: May 2012 – Mar. 2013

- Supervisor: Dr. Yutaka Satoh, Dr. Kenji Iwata
- 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. Go Ohtani, Hirokatsu Kataoka, Yoshimitsu Aoki, “RECA: A Pipeline for Refinement of Compressed Artifacts in Image Super-Resolution Training,” in IEEE Access, 2025, URL: <https://ieeexplore.ieee.org/abstract/document/11177494>
2. Yuichi Iwasaki, Hiroko Arai, Akihiro Tamada, Hirokatsu Kataoka, “Japanese mayfly family classification with a vision transformer model,” in Limnology, 2025, URL: <https://link.springer.com/article/10.1007/s10201-025-00805-9>
3. 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>.
4. 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>.
5. 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>.
6. 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>.
7. 川野 恭史, 長崎 好輝, 原 健翔, 青木 義満, 片岡 裕雄, 「予備動作の認識による行動予測」、精密工学会誌、vol. 89、no.12、pp.915–920、2023年発表、URL: https://www.istage.ist.go.jp/article/ijspe/89/12/89_915/article/-char/ja
8. Guoqing Hao, Satoshi Iizuka, Kensho Hara, Hirokatsu Kataoka, Kazuhiro Fukui, “Natural Image Decay With a Decay Effects Generator”, IEEE Access, 2023, 2023年発表、査読有、URL: <https://ieeexplore.ieee.org/document/10298210>
9. Kodai Nakashima, Hirokatsu Kataoka, Yutaka Satoh, “Does Formula-Driven Supervised Learning Work on Small Datasets?”, IEEE Access, 2023, 2023年、査読有、URL: <https://ieeexplore.ieee.org/document/10266324>
10. Yanjun Sun, Yue Qiu, Yoshimitsu Aoki, Hirokatsu Kataoka, “Outdoor Vision-and-Language Navigation Needs Object-level Alignment”, Sensors, 2023, 2023年、査読有、URL: <https://www.mdpi.com/1424-8220/23/13/6028>
11. 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年、査読有、URL: <https://link.springer.com/article/10.1007/s11263-021-01555-8>
12. 福原 吉博, 板摺 貴大, 片岡 裕雄, 森島 繁生, 「敵対的サンプルに頑健な特徴表現の性質の分析」、精密工学会誌、vol. 87、no.1、pp.83–91、2021年発表、URL: https://www.istage.ist.go.jp/article/ijspe/87/1/87_83/article/-char/ja

13. 山田亮佑、鈴木亮太、中村明生、片岡裕雄、「フラクタル幾何学に基づいた多視点画像自動生成によるデータセット拡張手法」、精密工学会誌、vol. 87、no.12、pp.1013-1019、2021年発表、URL：
https://www.jstage.jst.go.jp/article/ijspe/87/12/87_1013/article/-char/ja
14. 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年発表、査読有、URL: <https://ieeexplore.ieee.org/document/9531560>
15. 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年発表、査読有、URL: <https://www.mdpi.com/2076-3417/11/14/6287>
16. 片岡裕雄、山田亮佑、松本晟人、「自然の形成原理によるCNNの学習」、Medical Imaging Technology、vol. 39、no.3、pp.117-123、2021年発表、URL：
https://www.jstage.jst.go.jp/article/mit/39/3/39_117/article/-char/ja
17. 山田亮佑、岡安寿繁、中村明生、片岡裕雄、「フラクタル幾何学に基づく大規模事前学習データベース自動構築と三次元物体認識への適用」、精密工学会誌vol. 87、no.4、pp.374-379、2021年発表、査読有、URL: https://www.jstage.jst.go.jp/article/ijspe/87/4/87_374/article/-char/ja
18. 福原吉博、板摺貴大、片岡裕雄、森島繁生、「敵対的サンプルに頑健な特徴表現の性質の分析」、精密工学会誌vol. 87、no.1、pp.83-91、2021年発表、査読有、URL：
https://www.jstage.jst.go.jp/article/ijspe/87/1/87_83/article/-char/ja
19. 片岡裕雄、「人工知能技術の現状と未来 画像・映像・言語メディア処理の発展と応用」、精密工学会誌、vol. 87、no.1、pp.16-20、2021年発表、査読有、URL：
https://www.jstage.jst.go.jp/article/ijspe/87/1/87_16/article/-char/ja
20. 中嶋航大、佐藤雄隆、片岡裕雄、「複数の天気状況下におけるセマンティックセグメンテーションのためのGANを用いた」、精密工学会誌vol. 87、no.1 pp.107-113、2021年発表、査読有、URL：
https://www.jstage.jst.go.jp/article/ijspe/87/1/87_107/article/-char/ja
21. Hideki Tsunashima, Kosuke Arase, Antony Lam, Hirokatsu Kataoka, 「UVIRT—Unsupervised Virtual Try-on Using Disentangled Clothing and Person Features」 Sensors, 20(19), 5647, 2020年発表、査読有、URL: <https://www.mdpi.com/1424-8220/20/19/5647>
22. Yue Qiu, Yutaka Satoh, Ryota Suzuki, Kenji Iwata, Hirokatsu Kataoka, 「Indoor Scene Change Captioning based on Multi-modality Data」, Sensors, 2020年発表、査読有、URL: <https://www.mdpi.com/1424-8220/20/17/4761>
23. Yue Qiu, Yutaka Satoh, Ryota Suzuki, Kenji Iwata, Hirokatsu Kataoka, 「Multi-view Visual Question Answering with Active Viewpoint Selection」, Sensors, 2020年発表、査読有、URL: <https://www.mdpi.com/1424-8220/20/8/2281>
24. 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年発表、査読有、URL: <https://ieeexplore.ieee.org/abstract/document/9120195>
25. 美濃口宗尊、吉田光太、螺良和樹、池谷拓夢、片岡裕雄、中村明生、「Neural Joking Machine—面白キャプションの生成及び評価に関する基礎検討—」、精密工学会誌vol. 85、no.12、pp.1151-1156、2019年発表、査読有、URL：
https://www.jstage.jst.go.jp/article/ijspe/85/12/85_1151/article/-char/ja
26. Qiu Yue, 佐藤雄隆、鈴木亮太、片岡裕雄、岩田健司、「一般物体認識用大規模画像データセットにおける視点依存性に関する考察及び定量化」、精密工学会誌vol. 85、no.12、pp.1087-1093、2019年発表、査読有、URL: https://www.jstage.jst.go.jp/article/ijspe/85/12/85_1087/article/-char/ja
27. 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年発表、査読有、URL: <https://www.mdpi.com/1424-8220/18/2/627>
28. Qiu Yue, 佐藤雄隆、片岡裕雄、「多視点を前提とした三次元空間尤度投票型物体認識」、精密工学会誌、Vol.83、No.12、pp.1125-1130、2017年発表、査読有、URL：
https://www.jstage.jst.go.jp/article/ijspe/83/12/83_1125/article/-char/ja/
29. 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年発表、査読有、URL：
https://www.jstage.jst.go.jp/article/transinf/E100.D/1/E100.D_2016EDP7138/article/-char/ja/

30. 白壁奏馬、片岡裕雄、岩田健司、佐藤雄隆、「カメラアレイおよびディープラーニングに基づく半遮蔽環境におけるロバスト人検出」、精密工学会誌, Vol.82, No.12, pp.1067-1071, 2016年発表、査読有、URL : 資料添付
31. 阿部香織、宮下侑大、片岡裕雄、中村明生、「人物再同定のための重み付き特徴統合の検討」、精密工学会誌, Vol.82, No.12, pp.1119-1127, 2016年発表、査読有、URL : https://www.istage.jst.go.jp/article/ijspe/82/12/82_1119/article/-char/ja/
32. 高山将太、片岡裕雄、磯部翔、栗田尚樹、増田誠、青木義満、「Superpixelを用いたオプティカルフローのクラスタリングによる混雑状況における人物追跡」、精密工学会誌, Vol.82, No.3, pp.259-265, 2016年発表、査読有、URL : https://www.jstage.jst.go.jp/article/ijspe/82/3/82_259/article/-char/ja
33. 橋本潔、片岡裕雄、里雄二、田藤雅基、青木義満、「統計的人体形状モデルを用いた人物追跡とRandom Forestによる姿勢状態分類」、精密工学会誌, Vol.81, No.12, pp.1162-1167, 2015年発表、査読有、URL : https://www.istage.jst.go.jp/article/ijspe/81/12/81_1162/article/-char/ja
34. 片岡裕雄、田村仁優、松井靖浩、青木義満、「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年発表、査読有、URL : https://www.jstage.jst.go.jp/article/transinf/E97.D/2/E97.D_296/article/-char/ja
35. 片岡裕雄、青木義満、松井靖浩、「Symmetrical Judgment Area Reduction and ECoHOG Feature Descriptor for Pedestrian Detection」、International Journal of Vehicle Safety, vol.6, no.1, pp.48-60, 2012年発表、査読有、URL : <https://www.inderscience.com/info/inarticle.php?artid=48548>
36. 片岡裕雄、田村仁優、松井靖浩、青木義満、「歩行者予防安全のためのCoHOG 特徴量改善による検出とParticle Filter による追跡」、電気学会論文誌C部門(平成24年電気学会電子・情報・システム部門誌論文奨励賞), vol.132, no.7, pp.1108-1115, 2012年発表、査読有、URL : <https://ci.nii.ac.jp/naid/10030778339>
37. 片岡裕雄、青木義満、「単眼カメラを用いたサッカー映像解析のための複数選手とボールの追跡」、画像電子学会論文誌, No.40-2, pp.152-159, 2012年発表、査読有、URL : <https://ci.nii.ac.jp/naid/110008107784>
38. 片岡裕雄、青木義満、「サッカー映像解析のための遮蔽にロバストな複数選手追跡手法」、電気学会論文誌C 部門, vol.130, no.11, pp.2058-2064, 2011年発表、査読有、URL : https://www.jstage.jst.go.jp/article/ieejc/130/11/130_11_2058/article/-char/ja/

5. Proceedings

1. Ryosuke Yamada, Kohsuke Ide, Yoshihiro Fukuhara, Hirokatsu Kataoka, Gilles Puy, Andrei Bursuc, Yuki M Asano, “3D sans 3D Scans: Scalable Pre-training from Video-Generated Point Clouds,” in arXiv preprint arXiv:2512.23042, 2025, URL: <https://arxiv.org/abs/2512.23042>
2. Hirokatsu Kataoka, Sora Takashima, Ryo Hayamizu, Ryosuke Yamada, Kodai Nakashima, Xinyu Zhang, Edgar Josafat Martinez-Noriega, Nakamasa Inoue, Rio Yokota, “Pre-training Vision Transformers with Formula-driven Supervised Learning,” in arXiv:2206.09132, 2025, URL: <https://arxiv.org/abs/2206.09132>
3. Kodai Kawamura, Yuta Goto, Rintaro Yanagi, Hirokatsu Kataoka, Go Irie, “Approximate Domain Unlearning for Vision-Language Models,” in NeurIPS 2025, 2025、査読有、URL: <https://arxiv.org/abs/2510.08132>
4. Masaki Kawamura, Nakamasa Inoue, Rintaro Yanagi, Hirokatsu Kataoka, Rio Yokota, “PowerCLIP: Powerset Alignment for Contrastive Pre-Training,” in arXiv preprint arXiv:2511.23170, 2025, URL: <https://arxiv.org/abs/2511.23170>
5. Orest Kupyn, Hirokatsu Kataoka, Christian Rupprecht, “S3OD: Towards Generalizable Salient Object Detection with Synthetic Data,” arXiv preprint arXiv:2510.21605, 2025、査読有、URL: <https://arxiv.org/abs/2510.21605>
6. Risa Shinoda, Nakamasa Inoue, Hirokatsu Kataoka, Masaki Onishi, Yoshitaka Ushiku, “Agrobench: Vision-language model benchmark in agriculture,” in IEEE/CVF International Conference on Computer Vision (ICCV), 2025、査読有、URL: https://openaccess.thecvf.com/content/ICCV2025/html/Shinoda_AgroBench_Vision-Language_Model_Benchmark_in_Agriculture_ICCV_2025_paper.html
7. Risa Shinoda, Nakamasa Inoue, Iro Laina, Christian Rupprecht, Hirokatsu Kataoka, “AnimalClue: Recognizing Animals by Their Traces,” in IEEE/CVF International Conference on Computer Vision

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8. Misora Sugiyama, Hirokatsu Kataoka, “Simple Visual Artifact Detection in Sora-Generated Videos,” in ICCV 2025 HiGen Workshop, 2025、査読有, URL: <https://arxiv.org/abs/2504.21334>
9. Shinichi Mae, Ryosuke Yamada, Hirokatsu Kataoka, “Industrial Synthetic Segment Pre-training,” in ICCV 2025 LIMIT Workshop, 2025、査読有, URL: <https://arxiv.org/abs/2505.13099>
10. Masatoshi Tateno, Gido Kato, Hirokatsu Kataoka, Yoichi Sato, Takuma Yagi, “HanDyVQA: A Video QA Benchmark for Fine-Grained Hand-Object Interaction Dynamics,” in ICCV 2025 HANDS Workshop, 2025、査読有, URL: <https://arxiv.org/abs/2512.00885>
11. Shogo Iwakata, Ryosuke Oshima, Hideki Tsunashima, Qi Feng, Hirokatsu Kataoka, Shigeo Morishima, “Dependent 3D Visual Grounding for Mobile Robots,” in IEEE International Conference on Image Processing (ICIP), 2025、査読有, URL: <https://ieeexplore.ieee.org/abstract/document/11084504>
12. Fumiya Uchiyama, Rintaro Yanagi, Shohei Taniguchi, Shota Takashiro, Masahiro Suzuki, Hirokatsu Kataoka, Yusuke Iwasawa, Yutaka Matsuo, “CLIP-like Model as a Foundational Density Ratio Estimator,” in arXiv preprint arXiv:2506.22881, 2025、査読有, URL: <https://arxiv.org/abs/2506.22881v2>
13. Fumiya Uchiyama, Rintaro Yanagi, Shohei Taniguchi, Shota Takashiro, Masahiro Suzuki, Hirokatsu Kataoka, Yusuke Iwasawa, Yutaka Matsuo, “How Semantically Informative is an Image?: Measuring the Covariance-Weighted Norm of Contrastive Learning Embeddings,” in arXiv preprint arXiv:2506.22881, 2025、査読有, URL: <https://arxiv.org/abs/2506.22881v1>
14. 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,” in Synthetic Data for Computer Vision Workshop @ CVPR 2025, 2025、査読有, URL: <https://arxiv.org/abs/2501.09278>
15. Yuto Matsuo, Yoshihiro Fukuhara, Yuki M Asano, Hirokatsu Kataoka, Akio Nakamura, “MoireDB: A Formula-driven Image Dataset for Robustness Enhancement,” in Synthetic Data for Computer Vision Workshop @ CVPR 2025, 2025、査読有, URL: <https://openreview.net/forum?id=GhDmrlCsJO>
16. Noritake Kodama, Go Ohtani, Yuto Matsuo, Rintaro Yanagi, Nakamasa Inoue, Yoshimitsu Aoki, Hirokatsu Kataoka, “GASR: Generated Artwork dataset for Image Super-Resolution,” in Synthetic Data for Computer Vision Workshop @ CVPR 2025, 2025、査読有, URL: <https://openreview.net/forum?id=msSI7qCbtO>
17. Ren Ohkubo, Rintaro Yanagi, Hirokatsu Kataoka, Yutaka Satoh, “Boosting Synthetic Data for VLMs via Diffusion Noise Optimization,” in Synthetic Data for Computer Vision Workshop @ CVPR 2025, 2025、査読有, URL: <https://openreview.net/forum?id=yUB4MibBqn>
18. Filipe Laitenberger, Nesta Midavaine, Ioana Simion, Stefan Vasilev, Hirokatsu Kataoka, Cees GM Snoek, Yuki M Asano, Mohammadreza Salehi, “BRADD: Balancing Representations with Anomaly Detection and Diffusion,” in Synthetic Data for Computer Vision Workshop @ CVPR 2025, 2025、査読有, URL:
19. Daichi Otsuka, Shinichi Mae, Ryosuke Yamada, Hirokatsu Kataoka, “Pre-training with 3D Synthetic Data: Learning 3D Point Cloud Instance Segmentation from 3D Synthetic Scenes,” in arXiv preprint arXiv:2503.24229, 2025、査読有, URL: <https://arxiv.org/abs/2503.24229>
20. 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、査読有, URL: <https://arxiv.org/abs/2503.21190>.
21. Shinichi Mae, Hirokatsu Kataoka, “Efficient Load Interference Detection with Limited Labeled Data,” SII, 2025. (SICE International Young Authors Award)、査読有, URL: <https://ieeexplore.ieee.org/abstract/document/10870959>
22. Yuto Matsuo, Ryo Hayamizu, Hirokatsu Kataoka, Akio Nakamura, “MoireDB: Formula-generated Interference-fringe Image Dataset,” arXiv pre-print 2502.01490, 2025、査読有, URL: <https://arxiv.org/abs/2502.01490>.
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24. Yuto Shibata, Keitaro Tanaka, Yoshiaki Bando, Keisuke Imoto, Hirokatsu Kataoka, Yoshimitsu Aoki, “Formula-Supervised Sound Event Detection: Pre-Training Without Real Data,” ICASSP 2025、査読有、URL: <https://ieeexplore.ieee.org/abstract/document/10888414>.
25. 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、査読有、URL: https://link.springer.com/chapter/10.1007/978-981-96-2071-5_27.
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 99. 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年発表、査読有、URL: https://openaccess.thecvf.com/content_cvpr_2018/CameraReady/0494.pdf
 100. 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年発表、査読有、URL: https://openaccess.thecvf.com/content_cvpr_2018/papers/Hara_Can_Spatiotemporal_3D_CVPR_2018_paper.pdf
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123. 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年発表、査読有、URL: <https://ieeexplore.ieee.org/document/5739712>

6. Award / Achievement

1. Outstanding Reviewer Award, IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2024, 2024年
2. SSII2023 インタラクティブセッション・オーディエンス賞、「限られた合成画像を用いたVision Transformerの事前学習」、画像センシング技術研究会、2023年
3. SSII2023 インタラクティブセッション・オーディエンス賞、「Visual Atoms: 正弦波の輪郭表現によるVision Transformerの事前学習」、画像センシング技術研究会、2023年
4. 2022年度 画像センシング技術研究会 最優秀学術賞、「動的シーングラフ生成における物体と関係性の同時検出」、画像センシング技術研究会、2023年
5. 産総研論文賞 (AIST Best Paper Award)、「Pre-training without Natural Images」、(国研)産業技術総合研究所、2023年
6. 3D-ResNetが過去5年間のCVPRで最も引用された論文としてランクイン (8800+論文中第47位)、「Can Spatiotemporal 3D CNNs Retrace the History of 2D CNNs and ImageNet?」、IEEE International Conference on Computer Vision and Pattern Recognition (CVPR)、2023年
7. DIA2023 研究奨励賞、「動的シーングラフ生成における網羅的かつ文脈レベルでの時空間情報抽出」、動的画像処理実利用ワークショップ (DIA2023)、2023年
8. Outstanding Reviewer Award, Asian Conference on Computer Vision (ACCV) 2022、2022年
9. MIRU学生優秀賞、「Lightning-fast Virtual Try-on without Paired Data and Direct Supervision」、MIRU2021、2021年
10. ViEW 2020 小田原賞 (最優秀発表賞)、「自然の形成原理に基づく3D姿勢ラベル付き多視点画像自動生成」、画像応用技術専門委員会、2020年
11. ACCV 2020 Best Paper Honorable Mention Award、「Pre-training without Natural Images」、Asian Federation of Computer Vision、2020年
12. 2019年度 画像センシング技術研究会 優秀学術賞、「Viewpoint-agnostic Image Rendering」、画像センシング技術研究会、2020年
13. 産総研論文賞 (AIST Best Paper Award)、「Can Spatiotemporal 3D CNNs Retrace the History of 2D CNNs and ImageNet?」、(国研)産業技術総合研究所、2020年
14. YANS奨励賞、「言語・視覚情報の統合による自動論文要約システム」、NLP若手の会、2018年
15. MIRU学生優秀賞、「Dynamic Fashion Cultures」、画像の認識・理解シンポジウム (MIRU)、2017年
16. 慶應義塾藤原奨学基金藤原賞、「画像局所特徴量の性能改善と次元圧縮による人物検出とその応用」、藤原科学財団、2014年
17. 平成23年電気学会電子・情報・システム部門誌論文奨励賞、「歩行者予防安全のためのCoHOG特徴量改善による検出とParticle Filterによる追跡」、電気学会、2012年
18. Best Presentation Award、「Extended CoHOG and Particle Filter by Improved Motion Model for Pedestrian Active Safety」、IEEE IECON 2012、2012年
19. Global COE Excellent Achievement Award、慶應義塾大学グローバルCOE、2012年
20. ViEW小田原賞、「姿勢変動に伴う身体特徴変化の統計的モデリングによる遮蔽に頑健な人物追跡」、画像応用技術専門委員会、2011年
21. 修士優秀活動賞、「単眼カメラを用いたサッカー映像解析のための複数選手とボールの追跡」、慶應義塾大学大学院総合デザイン工学専攻、2011年
22. 平成22年度パターン計測シンポジウム優秀論文賞、「単眼カメラを用いた複数選手・ボール軌跡のグラウンド上への射影」、パターン計測シンポジウム、2010年
23. 若手研究奨励賞、「単眼カメラを用いたサッカー映像解析のための複数選手とサッカーボールの追跡手法」、動的画像処理実利用ワークショップ (DIA2010)、2010年
24. 優秀発表賞、「カメラの水平スイングを考慮した単眼サッカー映像からの選手追跡」、精密工学会サマーセミナー、2009年

7. Book

1. 片岡裕雄 (監修)、齋藤邦章、清野舜、小林滉河、河原塚健人、宮澤一之、鈴木達哉 (執筆)、「Data-centric AI入門」、技術評論社、2025年発行
2. 井尻善久、牛久祥孝、片岡裕雄、藤吉弘亘、延原章平、「コンピュータビジョン最前線 Winter 2023 (一人称ビジョン・拡散モデル)」、共立出版社、2023年発行

- 井尻善久、牛久祥孝、片岡裕雄、藤吉弘亘、「コンピュータビジョン最前線 Autumn 2023(バーチャルヒューマン)」、共立出版社、2023年発行
- 青木義満、明石卓也、大橋剛介、片岡裕雄、杉本麻樹、竹内渉、戸田真志、中嶋航大、門馬英一郎、山田亮佑、輿水大和、「図解即戦力 画像センシングのしくみと開発がこれ1冊でしっかりわかる教科書」、技術評論社、2023年発行
- 井尻善久、牛久祥孝、片岡裕雄、藤吉弘亘、「コンピュータビジョン最前線 Summer 2023(生成AI)」、共立出版社、2023年発行
- 井尻善久、牛久祥孝、片岡裕雄、藤吉弘亘、「コンピュータビジョン最前線 Spring 2023(増えるCV技術)」、共立出版社、2023年発行
- 井尻善久、牛久祥孝、片岡裕雄、藤吉弘亘、「コンピュータビジョン最前線 Winter 2022(3次元の世界を理解する技術)」、共立出版社、2022年発行
- 山本晋太郎、徳永匡臣、箕浦大晃、邱玥、品川政太郎(著)、片岡裕雄(監修)、「Vision Transformer入門 (Computer Vision Library)」、技術評論社、2022年発行
- 井尻善久、牛久祥孝、片岡裕雄、藤吉弘亘、「コンピュータビジョン最前線 Autumn 2022(3次元の世界を表現する技術)」、共立出版社、2022年発行
- 井尻善久、牛久祥孝、片岡裕雄、藤吉弘亘、「コンピュータビジョン最前線 Summer 2022(ビジョンを支える「キバン」技術)」、共立出版社、2022年発行
- 井尻善久、牛久祥孝、片岡裕雄、藤吉弘亘、「コンピュータビジョン最前線 Spring 2022(「動き」を捉えるCV技術)」、共立出版社、2022年発行
- 井尻善久、牛久祥孝、片岡裕雄、藤吉弘亘、「コンピュータビジョン最前線 Winter 2021(三つ巴の学習戦略)」、共立出版社、2021年発行
- 米谷竜、斎藤英雄、池畑諭、牛久祥孝、内山英昭、内海ゆづ子、小野峻佑、片岡裕雄、金崎朝子、川西康友、齋藤真樹、櫻田健、高橋康輔、松井勇佑、「コンピュータビジョンー広がる要素技術と応用ー」、共立出版社、2018年発行

8. Press

- “足跡やふんなどの画像から動物を推定するAIモデル開発”， NHK News, 2025年8月26日. (<https://news.web.nhk/newsweb/na/na-k10014903031000>)
- “野生動物の多様な“痕跡”の画像から種の推定を可能にするAIモデルを開発ー専門知識がなくても非侵襲的に動物の種を識別できる新たなアニマルトラッキングAIモデルー”， 産総研 プレスリリース, 2025年7月29日. (https://www.aist.go.jp/aist_j/press_release/pr2025/pr20250729/pr20250729.html)
- “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)
- “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)
- “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>)
- “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/>)
- “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/>)
- “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)
- “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/>)
- “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/>)

11. “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>)
12. “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

1. [Research talk] Visual Geometry Group (VGG), University of Oxford, Nov. 2023. [[Link](#)] [[Slide](#)]
2. [Research talk] Video and Image Sense Lab (VIS Lab), University of Amsterdam, Nov. 2023. [[Link](#)] [[Slide](#)]
3. [Keynote talk] International Workshop on Frontiers of Computer Vision (IW-FCV 2023), Feb. 2023. [[Link](#)] [[Slide](#)]
4. [Research talk] Sinha Lab, MIT, Feb. 2023. [[Link](#)] [[Slide](#)]

10. Academic services

- Associate Editor
 - TPAMI 2025, 2026
- Area Chair
 - CVPR 2024, 2025, 2026
- Workshop Organizer
 - CVPR 2026 Workshop (Primary organizer in VGI, organizer in BigMAC)
 - 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

【Ph.D. Students】

- 邱玥 / Yue Qiu (筑波大学佐藤雄隆研究室; 修士・博士RA w/ Yutaka Satoh; 2016)
 - ICCV 2021
 - Sensors 2020 x2
 - IROS 2020 / RA-L 2020
 - 3DV 2019
 - CVPR 2018 Workshop
- 中嶋航大 / Kodai Nakashima (筑波大学佐藤雄隆研究室; 修士・博士RA; 2018)
 - IEEE Access 2023
 - ICCV 2023 共著
 - AAAI 2022
 - CVPR 2022 共著

- ICCV 2021 共著
- ICRA 2020 共著
- 山本晋太郎(早稲田大学森嶋繁生研究室; 博士RA; 2019)
 - WACV 2023 共著
 - ICCV 2021
 - HCII 2021
 - Applied Science 2020
- 福原吉博(早稲田大学森嶋繁生研究室; 博士RA; 2019)
 - 精密工学会論文誌 2020
- 綱島秀樹 / Hideki Tsunashima(早稲田大学森嶋繁生研究室; 修士・博士RA; 2019)
 - Sensors 2020
 - ICPR 2020
- ハオグオチン / Guoqing Hao(筑波大学福井和広研究室; 修士・博士RA w/ Kensho Hara; 2019)
 - SIGGRAPH Asia 2023
 - IEEE Access 2023
- 山田亮佑 / Ryosuke Yamada(筑波大学佐藤雄隆研究室; 修士・博士RA; 2020)
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 - BMVC 2023 Oral 共著
 - ICCV 2023 Workshop Organizer
 - CVPR 2023 Workshop
 - CVPR 2023 Workshop 共著
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 - CVPR 2022 共著
 - International Journal of Computer Vision (IJCV) 2022 共著
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 - IROS 2021
 - ACCV 2020 Best Paper Honorable Mention 共著
 - ViEW 2020 小田原賞
- 中村凌 / Ryo Nakamura(福岡大学田中勝研究室; 博士RA; 2020)
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【Master/Undergraduate Students】

- 白壁奏馬 / Soma Shirakabe(筑波大学佐藤雄隆研究室; 修士RA w/ Yutaka Satoh; 2015)
 - ECCV 2016 Workshop Brave New Idea
 - ViEW 2015 若手奨励賞
- 賀雲 / Yun He(筑波大学佐藤雄隆研究室; 修士RA w/ Yutaka Satoh; 2015)
 - ECCV 2016 Workshop Brave New Idea
 - ViEW 2016 若手奨励賞

- 宮下侑大 / Yudai Miyashita(東京電機大学中村明生研究室; 修士RA w/ Kenji Iwata; 2015)
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 - CVPR 2015 完全読破チャレンジ達成 / PRMU 2015.12 招待講演
- 陳放歌 / Fangge Chen(筑波大学佐藤雄隆研究室; 修士RA w/ Yutaka Satoh; 2016)
 - ICDAR 2017
 - CVPR 2018 Workshop 共著
- 大喜 周平 / Shuhei Ohki(筑波大学佐藤雄隆研究室; 修士RA w/ Yutaka Satoh; 2016)
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- 鈴木哲平 / Teppei Suzuki(慶應義塾大学青木義満研究室; 修士RA; 2016)
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- 阿部香織 / Kaori Abe(東京電機大学中村明生研究室; 修士RA; 2016)
 - MIRU 2017 学生奨励賞
- 森田慎一郎 / Shinichiro Morita(東京電機大学中村明生研究室; 修士Intern; 2016)
- 鈴木智之 / Tomoyuki Suzuki(慶應義塾大学青木義満研究室; 修士RA; 2017)
 - CVPR 2018
- 秋本直郁 / Naofumi Akimoto(慶應義塾大学青木義満研究室; 修士RA; 2018)
 - SIGGRAPH Asia 2018 Poster
- 相澤宏旭 / Hiroaki Aizawa(岐阜大学加藤邦人研究室; 修士Intern; 2018)
 - WACV 2021
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- 岡安寿繁 / Kazushige Okayasu(東京電機大学中村明生研究室; 修士Intern; 2018)
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- 美濃口宗尊 / Munetaka Minoguchi(東京電機大学中村明生研究室; 修士RA; 2018)
 - SSII 2020 招待講演(オーガナイズドセッション)
 - HCII 2020 共著
 - CVPR 2019 Workshop 共著
 - ViEW 2019若手奨励賞
 - CVPR 2018 Workshop 共著
- 石川裕地 / Yuchi Ishikawa(慶應義塾大学青木義満研究室; 修士RA; 2019)
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- 高橋遼 / Ryo Takahashi(慶應義塾大学青木義満研究室; 修士RA; 2020)
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- 高橋秀弥 / Shuya Takahashi(東京電機大学前田英作研究室; 修士RA; 2022)
- 内山史也 / Fumiya Uchiyama(東京大学; 学部Intern w/ Yue Qiu; 2022)
- 柴田優斗 / Yuto Shibata(慶應義塾大学青木義満研究室; 修士RA; 2023)
- 森江梨花 / Erika Mori(慶應義塾大学青木義満研究室; 修士RA w/ Yue Qiu; 2023)
- 大塚大地 / Daichi Otsuka(東京電機大学中村明生研究室; 修士RA w/ ALラボ; 2023)
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- 福沢匠 / Takumi Fukuzawa(名古屋工業大学玉木徹研究室; 学部Intern w/ Kensho Hara; 2023)
- 岩片彰吾 / Shogo Iwakata(早稲田大学森島繁生研究室; 学部Intern; 2023)

12. Patent

1. 特許第6418574号「危険度推定装置、危険度推定方法及び危険度推定用コンピュータプログラム」
 2015年出願、2018年登録
 全発明者氏名: 原孝介、大塚恭平、青木義満、片岡裕雄