

Mar., 21, 2019.

# Hirokatsu KATAOKA, *Ph.D.*

*Research Scientist*

National Institute of Advanced Industrial Science and Technology (AIST),  
Japan

## Contact Information

---

1-1-1 Umezono, Tsukuba, Ibaraki, 305-8560, Japan

E-mail: hirokatsu[dot]kataoka[at]aist[dot]go[dot]jp

My page: <http://www.hirokatsukataoka.net/>

## Research Interests

---

- Computer Vision & Pattern Recognition
- Large-scale Visual Learning
- Video Understanding
- Dataset Construction
- Community-driven Research

## Professional Experiences

---

### **April 2016 – Present**

*Research Scientist*, National Institute of Advanced Industrial Science  
and Technology (AIST), Japan

### **April 2015 – March 2016**

*Postdoctoral Fellow*, National Institute of Advanced Industrial Science  
and Technology (AIST), Japan

### **April 2014 – March 2015**

*Postdoctoral Fellow*, The University of Tokyo, Japan

### **July 2013 – September 2013, September 2014 – November 2014**

*Visiting Researcher*, Technische Universitat Munchen (TUM), Ger-  
many

Supervisor : Prof. Nassir Navab, Dr. Slobodan Ilic, Dr. Federico  
Tombari

### **April 2013 – March 2015**

*Reserch Fellow*, Japan Society for the Promotion of Science (JSPS),  
Japan

**August 2011 – February 2012**

*Visiting Scholar*, Center for Research in Intelligent Systems, University of California, Riverside, United States  
Supervisor : Prof. Bir Bhanu

**Education**

---

**April 2011 – March 2014**

*Ph.D. candidate*, Graduate School of Science and Technology, Keio University, Japan  
Supervisor : Prof. Yoshimitsu Aoki

**April 2009 – March 2011**

*Master course*, Graduate School of Science and Technology, Keio University, Japan  
Supervisor : Prof. Yoshimitsu Aoki

**April 2005 – March 2009**

*Bachelor course*, Department of Information and Engineering, Shibaura Institute of Technology, Japan

**April 2002 – March 2005**

Midorioka High School, Japan

**Selected Publications**

---

1. Hirokatsu Kataoka, Yutaka Satoh, “Unsupervised Out-of-context Action Understanding”, IEEE International Conference on Robotics and Automation (ICRA), May 2019.
2. Hirokatsu Kataoka\*, Tomoyuki Suzuki\*, Yoshimitsu Aoki, Yutaka Satoh, “Anticipating Traffic Accidents with Adaptive Loss and Large-scale Incident DB”, IEEE/CVF International Conference on Computer Vision and Pattern Recognition (CVPR), Jun. 2018. (\*: equal)
3. Kensho Hara, Hirokatsu Kataoka, Yutaka Satoh, “Can Spatiotemporal 3D CNNs Retrace the History of 2D CNNs and ImageNet?”, IEEE/CVF International Conference on Computer Vision and Pattern Recognition (CVPR), Jun. 2018.
4. 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), May 2018.

5. Hirokatsu Kataoka, Yutaka Satoh, Yoshimitsu Aoki, Shoko Oikawa, Yasuhiro Matsui, “Temporal and Fine-grained Pedestrian Action Recognition on Driving Recorder Database”, Sensors, 2018. (IF: 2.67)
6. 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), Oct. 2016. **(Oral, Best Paper)**
7. Hirokatsu Kataoka, Yun He, Soma Shirakabe, Yutaka Satoh, “Motion Representation with Acceleration Images”, ECCV 2016 Workshop on Brave New Ideas for Motion Representations in Videos (BNMW), Oct. 2016.
8. 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), Sep. 2016.
9. Hirokatsu Kataoka, Yudai Miyashita, Tomoaki Yamabe, Soma Shirakabe, Shin’ichi Sato, Hironori Hoshino, Ryo Kato, Kaori Abe, Takaaki Imanari, Naomichi Kobayashi, Shinichiro Morita, Akio Nakamura, “cvpaper.challenge in 2015 - A review of CVPR2015 and DeepSurvey”, arXiv pre-print 1605.08247, May. 2016. **(Completed to read ALL of the CVPR 2015 papers!)**
10. Masamichi Shimosaka, Nishi Kentaro, Junichi Sato, Hirokatsu Kataoka, “Predicting Driving Behavior Using Inverse Reinforcement Learning with Multiple Reward Functions towards Environmental Diversity”, IEEE Intelligent Vehicles Symposium (IV), May 2015. **(Acceptance rate (oral): 6.6%)**
11. 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), 2014. **(Acceptance rate: 27.8%)**

## Awards

---

1. MIRU Best Student Paper, MIRU 2017
2. Best Student Paper, ViEW 2016, Dec. 2016.

3. Best Paper, ECCV 2016 workshop on brave new ideas for motion representation in videos, Oct 2016.
4. Fujiwara Award, Faculty of Science and Technology at Keio University, Mar 2014.
5. IEEJ Best Journal Award 2012, IEEJ Transactions on Electrical and Electronic Engineering, Sep 2013.
6. IEEE IECON2012 Best Presentation Award, IEEE IECON2012, Oct 2012.
7. Odawara Award, ViEW2011, Dec 2011.
8. Best Master Course Student Award of School of Integrated Design Engineering in Master Course, Mar 2011.
9. Best Paper Award of SICE pattern analysis symposium, Dec 2010.

## Supervisor for Research Assistants, Interns \_\_\_\_\_

1. Naofumi Akimoto, Advanced Generative Models, 2018-2019.
2. Munetaka Minoguchi, Fashion Style Detector, 2018-2019.
3. Kazushige Okayasu, Pretraining with Natural Language, 2018.
4. Tomoyuki Suzuki, Accident Anticipation/Self-supervised Learning, 2017-2018.
5. Kaori Abe, World-wide Fashion Database, 2016-2017.
6. Teppei Suzuki, Traffic Near-miss Detection, 2016-2017.
7. Shinichiro Morita, Weak-supervised Video Recognition, 2016.
8. Yudai Miyashita, Fine-grained Action Recognition, 2015.

## Invited talks \_\_\_\_\_

1. Nagoya CV · PRML, Dec. 2017.
2. teamLab, Dec. 2017.
3. Tokyo Denki Univ., Nov. 2017.
4. Waseda Univ., Sep. 2017.

5. Chukyo Univ., Feb. 2017.
6. Keio Univ., Jan. 2017.
7. STAIR Lab., Jan. 2017.
8. TUM & AIST joint seminar, Oct. 2016.
9. IAIP, Jul. 2016.
10. Pattern Recognition and Media Understanding (PRMU), Dec. 2015.
11. SSII2015, Jun. 2015.
12. Max Planck Institute for Infomatics (MPII), Oct. 2014.
13. Tokyo University, Jun. 2012.

Reviews \_\_\_\_\_  
CVPR, AAAI, CVIU, WACV, ACCV, IROS, ICPR, ITSC, Sensors, ...