Minjie Cai

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EDUCATION

The University of Tokyo, Tokyo, Japan

- Doctor of Philosophy (Ph.D.) in Information Science and Technology — Apr 2013 – Mar 2016
  - Thesis: Understanding Hand-Object Manipulation from First-Person View Video
  - Adviser: Professor Yoichi Sato, Dr Kris Kitani
  - Research areas: Hand manipulation analysis, first-person vision, applied machine learning.

Northwestern Polytechnical University, Xi'an, China

- Master of Science (M.S.) in Electronics and Information — Sep 2008 – Mar 2011
  - Adviser: Professor Bo Li
  - Research areas: Video transmission in a wireless ad hoc network.
- Bachelor of Science (B.S.) in Electronics and Information — Sep 2004 – Jun 2008
  - Graduated with postgraduate recommendation.
  - Top 5% of Class in Cumulative GPA

RESEARCH EXPERIENCE

Institute of Industrial Science, The University of Tokyo

- Project Researcher — Apr 2016 – Current
  - Project: JST CREST Project on Collective Vision Sensing (2015-2020)
  - Supervisor: Professor Yoichi Sato
  - Research areas: First-person vision, wearable ego-vision system and its applications.

Huawei Japan Research Center, Yokohama, Japan

- Intern — Sep 2015 – Mar 2016
  - Supervisor: Dr Bo Zheng
  - Research areas: Hand gesture recognition and its applications in virtual reality.

PUBLICATIONS

JOURNALS

- M. Cai, F. Lu, and Y. Gao, "Desktop action recognition from first-person point-of-view," *IEEE Transactions on Cybernetics*, DOI:10.1109/TCYB.2018.2806381, 2018.
- M. Cai, K. Kitani, and Y. Sato, "An ego-vision system for hand grasp analysis," *IEEE Transactions on Human-Machine Systems (THMS)*, vol. 47, no. 4, pp. 524–535, 2017.

CONFERENCES

- Y. Huang, M. Cai, Z. Li, and Y. Sato, "Predicting gaze in egocentric videos by learning task-dependent attention transition," in *European Conference on Computer Vision (ECCV 2018)*, to appear.
- Y. Huang, M. Cai, H. Kera, R. Yonetani, K. Higuchi, and Y. Sato, "Temporal localization and spatial segmentation of joint attention in multiple first-person videos," in *Proceedings of IEEE International Conference on Computer Vision Workshop (ICCVW 2017)*, pp. 2313-2321, Oct 2017.
- M. Cai, K.M. Kitani, and Y. Sato, "Understanding hand-object manipulation with grasp types and object attributes," in *Proceedings of Robotics: Science and Systems Conference (RSS 2016)*, XII.034, pp. 1-10, Jun 2016.
- M. Cai, K.M. Kitani, and Y. Sato, "A scalable approach for understanding the visual structures of hand grasps," in *Proceedings of IEEE International Conference on Robotics and Automation (ICRA 2015)*, pp. 1360-1366, May 2015.
- M. Cai, K.M. Kitani, and Y. Sato, "Hand grasp recognition from egocentric videos," in *Proceedings of IEEE Computer Society Workshop on Observing and Understanding Hands in Action (HANDS 2015)*, pp. 1-3, Jun 2015.
- M. Cai, K.M. Kitani, and Y. Sato, "Hand skeleton pruning based on contour partition with fingertip detection," in *Proceedings of Meeting on Image Recognition and Understanding (MIRU 2014)*, extended abstract, Jul 2014.

TECHNICAL REPORT

- M. Cai, K.M. Kitani, and Y. Sato, "Studying mutual context of grasp types and object attributes in hand manipulation activities," *IEICE technical report*, vol.116 no.208, pp. 105-112, Sep 2016.
- M. Cai, K.M. Kitani, and Y. Sato, "Discovering appearance-based grasp structures with wearable cameras," *IEICE technical report*, vol.114 no.351, pp. 49-54, Nov 2014.

ACADEMIC SERVICES

Program committee member

- WACV Workshop on Human Activity Analysis with Highly Diverse Cameras 2017
- CVPR Workshop on Egocentric (First-Person) Vision 2016

SCI journal reviewer

- IEEE Transactions on Multimedia 2016–2018
- IEEE Transactions on Human-Machine Systems 2015–2016

International conference reviewer

- ECCV 2018
- CVPR 2018
- ICCV 2017
- IROS 2017

OTHER WORK EXPERIENCE

Huawei Technologies, Shenzhen, China

- Software Engineer, Research & Development Division Mar 2011 – Apr 2012
  - Developed software for access network devices in a big team.
  - Organized and coded manual documents for network products.

HONORS

- MEXT Scholarship, The University of Tokyo Oct 2012 – Mar 2016
  For studying at a Japanese university with a scholarship from the Japanese government.
- Japanese Speech Contest Award, Northeast Normal University Jul 2012
  Runner-up in a Japanese speech contest co-organized by the Japanese Embassy in China.
- Undergraduate First-Class Scholarship, Northwestern Polytechnical University Jun 2008
  Top 5% of Class in Cumulative GPA. Recommended for postgraduate study with a scholarship.

LANGUAGES

- Chinese: Native language.
- English: Fluent (speaking, reading, writing).
- Japanese: Fluent (reading); Intermediate (speaking, writing).

SKILLS

C++, Python, Matlab, OpenCV, Caffe, Photoshop.

INTERESTS

Digital photography, hiking, reading.

REFERENCES

- **Professor Yoichi Sato**
  Professor of Institute of Industrial Science
  The University of Tokyo
  Komaba 4-6-1, Meguro, Tokyo 153-0041, Japan
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- **Dr Kris Kitani**
  Assistant Research Professor
  Carnegie Mellon University
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