Satoshi Tsutsui

Postdoctoral Research Fellow at National University of Singapore.
satoshi@nus.edu.sg
https://hellosatoshi.github.io
Last Update: Mar 2022

Education

- Ph.D., School of Informatics, Computing, and Engineering, Indiana University, USA. 2021
  - Dissertation: *Rethinking the Role of Training Data for Computer Vision: Scientific Studies of Egocentric Vision.*
  - Advisors: David Crandall (committee chair) and Chen Yu (committee member).
- M.S., School of Informatics, Computing, and Engineering, Indiana University, USA. 2017
  - Advisor: Ying Ding.
- B.E. (with highest honors), Faculty of Science and Technology, Keio University, Tokyo, Japan. 2015

Experience

- Postdoctoral Research Fellow at National University of Singapore. December 2021 - Present
  - Advisor: Mike Shou.
- Research Intern at Facebook, USA. December 2020 - June 2021
  - Mentor: Ruta Desai and Karl Ridgeway.
  - Developed visual perception algorithms for AR/VR devices.
- Visiting Student Researcher at Fudan University, China. May 2019 - August 2019
  - Mentor: Yanwei Fu.
  - Worked on few-shot visual recognition.
- Visiting Student Researcher at Peking University, China. May 2018 - August 2018
  - Mentor: Liangcai Gao.
  - Worked on computer vision for medical images.
- Research Intern at Preferred Networks, Japan. May 2017 - August 2017
  - Mentor: Tommi Kerola and Shunta Saito.
  - Developed semantic segmentation algorithms for autonomous driving.

Publications

1. Satoshi Tsutsui, Yanwei Fu, and David Crandall. (2022). Reinforcing Generated Images via Meta-learning for One-Shot Fine-Grained Visual Recognition. *IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI). Accepted, To Appear.* (Impact Factor = 17.861).

2. Satoshi Tsutsui, Yanwei Fu, and David Crandall. (2021). Whose hand is this? Person Identification from Egocentric Hand Gestures. *Winter Conference on Applications of Computer Vision (WACV).* (First round acceptance; Acceptance rate = 496/1241 = 35.4%).

3. Satoshi Tsutsui, Ruta Desai, and Karl Ridgeway. (2021). How You Move Your Head Tells What You Do: Self-supervised Video Representation Learning with Egocentric Cameras and IMU Sensors. *International Workshop on Egocentric Perception, Interaction and Computing (EPIC), In conjunction with the IEEE International Conference on Computer Vision (ICCV).* (Extended Abstract).

4. Satoshi Tsutsui, David Crandall, and Chen Yu. (2021). Reverse-engineer the Distributional Structure of Infant Egocentric Views for Training Generalizable Image Classifiers. *International Workshop on Egocentric Perception, Interaction and Computing (EPIC), In conjunction with the IEEE Conference on Computer Vision and Pattern Recognition (CVPR).* (Extended Abstract).

5. Satoshi Tsutsui, Arjun Chandrasekaran, Md Reza, David Crandall, and Chen Yu. (2020). A Computational Model of Early Word Learning from the Infant's Point of View. *Annual Conference of the Cognitive Science Society (CogSci).* (Oral Acceptance Rate = 177/811 = 22%).

6. Satoshi Tsutsui, Yanwei Fu, and David Crandall. (2019). Meta-Reinforced Synthetic Data for One-Shot Fine-Grained Visual Recognition. *Advances in Neural Information Processing Systems (NeurIPS).* (Poster Acceptance Rate = 1428/6743 = 21%).

7. Satoshi Tsutsui, Dian Zhi, Md Reza, David Crandall, and Chen Yu. (2019). Active Object Manipulation Facilitates Visual Object Learning: An Egocentric Vision Study. *International Workshop on Egocentric Perception, Interaction and Computing (EPIC), In conjunction with the IEEE Conference on Computer Vision and Pattern Recognition (CVPR).* (Extended Abstract).

8. Zheng Gao, Gang Fu, Chunping Ouyang, Satoshi Tsutsui, Xiaozhong Liu, Jeremy Yang, Christopher Gessner, Brian Foote, David Wild, and Ying Ding. (2019). edge2vec: Representation Learning Using Edge Semantics for Biomedical Knowledge Discovery. *BMC Bioinformatics. 20*(1), 306. (Impact Factor = 3.213).

9. Satoshi Tsutsui, Zheng Gao, Yuzhuo Wang, Guilin Meng, and Ying Ding. (2018). A case study on viziometrics: What's the role of western blots in Alzheimer's Disease literature?. *iConference.* (Poster).

10. Satoshi Tsutsui, Tommi Kerola, Shunta Saito, and David Crandall. (The first three authors have equal contribution). (2018). Minimizing Supervision for Free-space Segmentation. *Workshop on Autonomous Driving (WAD), In conjunction with the Conference on Computer Vision and Pattern Recognition (CVPR).*

11. Satoshi Tsutsui, Sven Bambach, David Crandall, and Chen Yu. (2018). Estimating head motion from egocentric vision. *ACM International Conference on Multimodal Interaction (ICMI).*

12. Ting-Ting Liang, Mengyan Sun, Liangcai Gao, Jing-Jing Lu, and Satoshi Tsutsui. (2018). APNet: semantic segmentation for pelvic MR image. *Chinese Conference on Pattern Recognition and Computer Vision (PRCV).*

13. Satoshi Tsutsui, and David Crandall. (2017). A data driven approach for compound figure separation using convolutional neural networks. *IAPR International Conference on Document Analysis and Recognition (ICDAR).* (Oral Acceptance Rate = 52/409 = 13%).

14. Satoshi Tsutsui, Guilin Meng, Xiaohui Yao, David Crandall, and Ying Ding. (2017). Analyzing Figures of Brain Images from Alzheimer's Disease Papers. *iConference.* (Poster).

15. Satoshi Tsutsui, and David Crandall. (2017). Using artificial tokens to control languages for multilingual image caption generation. *Language and Vision Workshop, In conjunction with the IEEE Conference on Computer Vision and Pattern Recognition (CVPR).* (Extended Abstract).

16. Satoshi Tsutsui, Tommi Kerola, and Shunta Saito. (2017). Distantly supervised road segmentation. *Workshop on Computer Vision for Road Scene Understanding and Autonomous Driving (CVRSUAD), In conjunction with the IEEE International Conference on Computer Vision (ICCV).*

17. Baitong Chen, Satoshi Tsutsui, Ying Ding, and Feicheng Ma. (2017). Understanding the topic evolution in a scientific domain: An exploratory study for the field of information retrieval. *Journal of Informetrics. 11*(4), 1175-1189. (Impact Factor = 3.879).

18. Satoshi Tsutsui, Yi Bu, and Ying Ding. (2017). Using machine reading to understand Alzheimers and related diseases from the literature. *Journal of Data and Information Science. 2*(4), 81–94. (Impact Factor = 1.771).

19. Satoshi Tsutsui, Ying Ding, and Guilin Meng. (2016). Machine reading approach to understand Alzheimer's disease literature. *International Workshop on Data and Text Mining in Biomedical Informatics (DTMBIO), In conjunction with the ACM Conference on Information and Knowledge Management (CIKM).*

Awards

- NeurIPS student travel award. 2019
- ICDAR student travel award. 2017
- Scholarship for Study Abroad from Yoshida Scholarship Foundation. 2015 - 2017
- Keio University Scholarship for Excellent Undergraduate Students. 2012