Naoto Inoue

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Research Interests

Weakly supervised learning, domain adaptation, generative models

Education

2018.4– current	**Ph.D.**, *Information and Communication Engineering*, The University of Tokyo, Japan. Graduation thesis: Cross-Style Object Detection through Progressive Domain Adaptation Supervisor: Toshihiko Yamasaki
2016.4– 2018.3	**M.S.**, *Information and Communication Engineering*, The University of Tokyo, Japan. Graduation thesis: Cross-Style Object Detection through Progressive Domain Adaptation Supervisor: Toshihiko Yamasaki
2012.4– 2016.3	**B.E.**, *Information and Communication Engineering*, The University of Tokyo, Japan. Graduation thesis: Object detection considering image context Supervisor: Toshihiko Yamasaki and Kiyoharu Aizawa

Research experiences

2016.4– 2018.3	**Cross-domain weakly supervised object detection**. Supervisor: Toshihiko Yamasaki Proposed a novel task, cross-domain weakly supervised object detection, to detect common objects in various image domains with weak supervision. Novel two-step adaptation methods are proposed. **First-authored paper accepted to CVPR 2018.**
2016.12– 2017.8	**Floor plan image retrieval**. Joint research with Yuki Takada, Supervisor: Toshihiko Yamasaki Proposed a novel task to retrieve similar floor plan images only from a single floor plan image. **Co-authored paper presented at ICCE 2018.** My role was to formulate this task and to propose a learning method to obtain good feature representations for the retrieval.
2016.9– 2017.8	**Learn from noisy data in fashion**. Supervisors: Edgar Simo-Serra, Toshihiko Yamasaki, and Hiroshi Ishikawa Proposed a method to learn from a mixture of noisy and clean data in fashion images. **First-authored paper presented at ICCVW 2017.**
2015.4– 2016.3	**Context-aware object detection**. Supervisors: Toshihiko Yamasaki and Kiyoharu Aizawa Proposed to model image context using MRF and SVM for supervised object detection. **First-authored paper presented at ICASSP 2017.**

Publications

International conference paper (peer-reviewed)

[1] **<u>Naoto Inoue</u>**, Ryosuke Furuta, Toshihiko Yamasaki, and Kiyoharu Aizawa. Cross-Domain Weakly-Supervised Object Detection through Progressive Domain Adaptation. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, Salt Lake City, U.S.A., June 2018.

[2] Ryosuke Furuta, **<u>Naoto Inoue</u>**, and Toshihiko Yamasaki. Efficient and Interactive Spatial-

Semantic Image Retrieval. In *International Conference on Multimedia Modeling (MMM)*, pages 190–202, Bangkok, Thailand, February 2018.

[3] Yuki Takada, **Naoto Inoue**, Toshihiko Yamasaki, and Kiyoharu Aizawa. Similar Floor Plan Retrieval Featuring Multi-Task Learning of Layout Type Classification and Room Presence Prediction. In *IEEE International Conference on Consumer Electronics (ICCE)*, pages 931–936, Las Vegas, U.S.A., January 2018.

[4] **Naoto Inoue**, Edgar Simo-Serra, Toshihiko Yamasaki, and Hiroshi Ishikawa. Multi-Label Fashion Image Classification with Minimal Human Supervision. In *International Conference on Computer Vision Workshops (ICCVW)*, pages 2261–2267, Venice, Italy, October 2017.

[5] **Naoto Inoue**, Ryosuke Furuta, Toshihiko Yamasaki, and Kiyoharu Aizawa. Object Detection Refinement Using Markov Random Field Based Pruning and Learning Based Rescoring. In *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, pages 1652–1656, New Orleans, U.S.A., March 2017.

Scholarships

2018.4–2021.3	The University of Tokyo - NEC Future AI Scholarship, 200,000 yen / month
2017.4–2018.3	Scholarship from Graduate Program for Social ICT Global Creative Leaders, The University of Tokyo, 120,000 yen / month

Awards

2018	Best Master Thesis Award, Graduate School of Information Science and Technology, The University of Tokyo. (3 winners out of 49 students in the department)
2018	IEEE CE East Joint Japan Chapter ICCE Young Scientist Paper Award.
2016	Best Bachelor Thesis Award, Department of Information and Communication Engineering, The University of Tokyo. (8 winners out of 121 students in the department)

Employment

2016.3–2016.4	**Research Intern**, *Preferred Networks*, Tokyo, Japan. Worked on generating images from arbitrary viewpoints using CNN in Preferred Networks, which is famous for its deep learning framework, Chainer.
2014.5–2015.3	**Part-time Engineer**, *Studio Ousia*, Tokyo, Japan. Worked on predicting CTR for named entity.

Skills

Languages	Japanese: native, English: fluent (TOEIC 930 (R 470, L 460))
Programming	Python, MATLAB, C++

References

Toshihiko Yamasaki, Ph.D. (yamasaki@hal.t.u-tokyo.ac.jp) Associate Professor, Department of Information and Communication Engineering, The University of Tokyo, Japan. (Thesis adivisor)

Kiyoharu Aizawa, Ph.D. (aizawa@hal.t.u-tokyo.ac.jp) Professor, Department of Information and Communication Engineering, The University of Tokyo, Japan. (Thesis co-adivisor)