Hiroki ADACHI

Postdoctoral Researcher
Chubu University

Address:
1200 Matsumoto-cho, Kasugai, Aichi, Japan
Email:
ha618[at]mprg.cs.chubu.ac.jp
Web:
https://hirokiadachi.github.io/

EDUCATION

- 2014 – 2018 (B.E.): Department of Robotic Science and Technology, Chubu University, Japan
  Supervisor: Prof. Hironobu FUJIYOSHI
- 2018 – 2020 (M.E.): Graduate School of Engineering, Chubu University, Japan
  Supervisor: Prof. Hironobu FUJIYOSHI
- 2020 – 2023 (Ph.D.): Graduate School of Engineering, Chubu University, Japan
  Supervisor: Prof. Hironobu FUJIYOSHI

WORK/REARCH EXPERIENCE

- Denso IT Laboratory
  Research Internship, Aug 2018 – Oct 2018, Aug 2019 – Oct 2019
- 2020 – 2023: Research Assistant
  Chubu University (Supervisor: Prof. Hironobu FUJIYOSHI)
- 2023 – ongoing: Moonshot Research & Development Program
- 2023 – ongoing: Postdoctoral Researcher
  Chubu University

INTERESTS

Computer Vision, Deep Learning, Adversarial Attack/Defense, Data Augmentation, Generative Model

PUBLICATIONS

Journals (in Japanese)

1. **Hiroki Adachi,** Tsubasa Hirakawa, Takayoshi Yamashita, Hironobu Fujiyoshi, “Effective Facial Image Generation for Recognition by Generative Adversarial Networks using Weighted Conditions”, the Institute of Electronics, Information and Communication Engineers Transactions on Information and Systems, J105-D, No.04, pp.271-282, 2022, https://doi.org/10.14923/transinfj.2021JDP7031.
2. **Hiroki Adachi,** Tsubasa Hirakawa, Takayoshi Yamashita, Hironobu Fujiyoshi, “The Effective Data Augmentation for Recognition by GAN Considering Attention Regions”, the Institute of Electronics,

Information and Communication Engineers Transactions on Information and Systems, J105-D, No.07, pp.470-479, 2022, https://doi.org/10.14923/transinfj.2021JDP7066.

International Conferences

1. **Hiroki Adachi**, Hiroshi Fukui, Takayoshi Yamashita, Hironobu Fujiyoshi, “Facial Image Generation by Generative Adversarial Networks using Weighed Conditions”, the 14th International Conference on Computer Vision Theory and Applications (VISAPP), 2019.
2. **Hiroki Adachi**, Tsubasa Hirakawa, Takayoshi Yamashita, Hironobu Fujiyoshi, Yasunori Ishii, Kazuki Kozuka, “Masking and Mixing Adversarial Training”, the 18th International Conference on Computer Vision Theory and Applications (VISAPP), 2023.
3. Takaaki Iwayoshi,**Hiroki Adachi**, Tsubasa Hirakawa, Takayoshi Yamashita, Hironobu Fujiyoshi, “Complement Objective Mining Branch for Optimizing Attention Map”, the 18th International Conference on Computer Vision Theory and Applications (VISAPP), 2023.

Domestic Conferences, Symposia and Workshops (in Japanese)

Refereed

1. **Hiroki Adachi**, Hiroshi Fukui, Takayoshi Yamashita, Hironobu Fujiyoshi, “High-Quality Facial Image Generation by Generative Adversarial Networks using Weighted Conditions”, the Meeting on Image Recognition and Understanding (MIRU), 2018.
2. Wataru Imaeda, **Hiroki Adachi**, Hiroshi Fukui, Takayoshi Yamashita, Hironobu Fujiyoshi, “An Effective Style Transfer for Recognition by CycleGAN using Attention Mechanism”, the Meeting on Image Recognition and Understanding (MIRU), 2019.
3. **Hiroki Adachi**, Hiroshi Fukui, Takayoshi Yamashita, Hironobu Fujiyoshi, “Effective Data Augmentation for Recognition by GAN Considering Attention Regions”, the Meeting on Image Recognition and Understanding (MIRU), 2020.
4. Masayuki Takada, **Hiroki Adachi**, Hiroshi Fukui, Takayoshi Yamashita, Hironobu Fujiyoshi, “Visual Explanation and Improvement in Skill Assessment by Attention Pairwise Ranking”, the Meeting on Image Recognition and Understanding (MIRU), 2020.

Non-Refereed

1. **Hiroki Adachi**, Hiroshi Fukui, Takayoshi Yamashita, Hironobu Fujiyoshi, “Step-by-Step Facial Image Generation by Generative Adversarial Networks using Weighted Conditions”, the Robotics Society of Japan (RSJ), 2018.
2. Kazuma Sasaki, Hiroki Adachi, Yifei Huang, Yuchi Ishikawa, Kotaro Kikuchi, Kazuki Fujimori, Li Zhenqiang, “Handling the Simulation-to-Reality Gap for Learning Systems of Real Robots: A Survey”, the Pattern Recognition and Media Understanding (PRMU) Society, 2018.
3. **Hiroki Adachi**, Tsubasa Hirakawa, Takayoshi Yamashita, Hironobu Fujiyoshi (Chubu Univ.), Yasunori Ishii, Shun Ishizaka, Kazuki Kozuka, “Adversarial Training to Mitigate the Gap Between Accuracy and Robustness”, the Meeting on Image Recognition and Understanding (MIRU), 2021.

4. **Hiroki Adachi**, Tsubasa Hirakawa, Takayoshi Yamashita, Hironobu Fujiyoshi, “Adversarial Training: A Survey”, the Pattern Recognition and Media Understanding (PRMU), 2022.
5. Chisa Domatsu, **Hiroki Adachi**, Tsubasa Hirakawa, Takayoshi Yamashita, Hironobu Fujiyoshi, “Detecting Adversarial Examples Focused on Changing of Feature Maps Before and After Geometrical Transformations”, the Meeting on Image Recognition and Understanding (MIRU), 2022.

Books

1. Chapter1: State-of-the-Art in Adversarial Training (イマドキの敵対的学習)
   State-of-the-Art in Computer Vision (コンピュータビジョン最前線) from Kyoritsu Publishing

AWARDS

- Student Award in the Meeting on Image Recognition and Understanding, 2020
- President’s Award in Chubu University 2020
- Research Encouragement Award in the Pattern Recognition and Media Understanding, 2022
- President’s Award in Chubu University 2022

GRANTS

- Apr. 2018 – Mar. 2023: Chubu University Educational Successor Development Scholarship
  2018 – 2020: ¥1,120,000 (¥280,000/half year)
  2020 – 2023: ¥1,680,000 (¥280,000/half year)
- Jan. 2022 – Mar. 2023: Chubu University SPRING Scholarship Awardee

SKILLS & EXPERTISE

- Platforms: Linux, Mac OS
- Programming Languages: C/C++, Python, MATLAB, ROS
- Other skills: HTML/CSS, LaTeX