

Kohei SAIJO

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Education

Waseda University

Ph.D. in Computer Science and Engineering

- Supervisor: Tetsuji Ogawa
- Research topic: Unsupervised sound source separation

Tokyo, Japan

April 2023 - Present

Waseda University

M.E. in Computer Science and Engineering

- Supervisor: Tetsuji Ogawa
- Research topic: Unsupervised sound source separation

Tokyo, Japan

April 2021 - March 2023

Waseda University

B.E. in Computer Science and Engineering

- Supervisor: Tetsuji Ogawa
- Research topic: Multi-channel sound source separation

Tokyo, Japan

April 2017 - March 2021

Work Experience

Mitsubishi Electric Research Laboratories

Mentor: Jonathan Le Roux

- Research Internship

Cambridge, MA, USA

November 2023 - Present

Carnegie Mellon University

Mentor: Shinji Watanabe

- Visiting Scholar
- Worked on multi-task speech enhancement

Pittsburgh, PA, USA

April 2023 - July 2023

LINE Corporation

Mentor: Robin Scheibler

- Part-time researcher
- Worked on multi-channel unsupervised source separation [Saijo+, Interspeech2022]

Tokyo, Japan

September 2021 - April 2022

LINE Corporation

Mentor: Robin Scheibler

- Research Internship
- Worked on multi-channel source separation and dereverberation [Saijo+, Interspeech2022]

Tokyo, Japan

August 2021 - September 2021

Publication

International Conference

- Xuankai Chang, Brian Yan, Kwanghee Choi, Jee-weon Jung, Yichen Lu, Soumi Maiti, Roshan Sharma, Jiatong Shi, Jinchuan Tian, Shinji Watanabe, Yuya Fujita, Takashi Maekaku, Pengcheng Guo, Yao-Fei Cheng, Pavel Denisov, **Kohei Saijo**, Hsiu-Hsuan Wang, “Exploring Speech Recognition, Translation, and Understanding with Discrete Speech Units: A Comparative Study,” In *2024 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, April 2024.
- **Kohei Saijo**, Wangyou Zhang, Zhong-Qiu Wang, Shinji Watanabe, Tetsunori Kobayashi, Tetsuji Ogawa, “A Single Speech Enhancement Model Unifying Dereverberation, Denoising, Speaker Counting, Separation, and Extraction,” In *2023 IEEE Automatic Speech Recognition and Understanding Workshop (ASRU)*, December 2023.
- **Kohei Saijo**, Tetsuji Ogawa, “Remixing-based Unsupervised Source Separation from Scratch,” In *Proceedings of 24th Annual Conference of International Speech Communication Association (INTERSPEECH)*, August 2023.
- **Kohei Saijo**, Tetsuji Ogawa, “Self-Remixing: Unsupervised Speech Separation via Separation and Remixing,” In *2023 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, June 2023.
- Riku Ogino, **Kohei Saijo**, Tetsuji Ogawa, “Design of Discriminators in GAN-Based Unsupervised Learning of Neural Post-Processors for Suppressing Localized Spectral Distortion,” In *Proceedings of Asia-Pacific Signal and Information Processing Association Annual Summit and Conference 2022 (APSIPA)*, November 2022.
- **Kohei Saijo**, Tetsuji Ogawa, “Unsupervised Training of Sequential Neural Beamformer Using Coarsely-separated and Non-separated Signals,” In *Proceedings of 23rd Annual Conference of International Speech Communication Association (INTERSPEECH)*, September 2022.
- **Kohei Saijo**, Robin Scheibler, “Spatial Loss for Unsupervised Multi-channel Source Separation,” In *Proceedings of 23rd Annual Conference of International Speech Communication Association (INTERSPEECH)*, September 2022.
- **Kohei Saijo**, Robin Scheibler, “Independence-based Joint Dereverberation and Separation with Neural Source Model,” In *Proceedings of 23rd Annual Conference of International Speech Communication Association (INTERSPEECH)*, September 2022.
- **Kohei Saijo**, Tetsuji Ogawa, “Remix-Cycle-Consistent Learning on Adversarially Learned Separator for Accurate and Stable Unsupervised Speech Separation,” In *2022 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, June 2022.
- **Kohei Saijo**, Kazuhiro Katagiri, Masaru Fujieda, Tetsunori Kobayashi, Tetsuji Ogawa, “Comparative Study on DNN-based Minimum Variance Beamforming Robust to Small Movements of Sound Sources,” In *Proceedings of Asia-Pacific Signal and Information Processing Association Annual Summit and Conference 2021 (APSIPA)*, December 2021.

Awards

ISS Young Researcher’s Award in Speech Field

from the Institute of Electronics, Information and Communication Engineers (IEICE)

December 2023

Best Student Presentation Award

from the Acoustical Society of Japan (ASJ)

September 2022

Grants

Research Fellowship for Young Scientists (DC2)

from Japan Society for the Promotion of Science (JSPS)

April 2024 - March 2026

Super Global University

from ICT & Robotics, Waseda University

April 2023 - July 2023

Support for Pioneering Research Initiated by the Next Generation (SPRING)

from Japan Science and Technology Agency (JST)

April 2023 - March 2026

Repayment Exemption for Graduate Students with Excellent Achievements (Type I; full-exemption)

from Japan Student Services Organization (JASSO)

April 2021 - March 2023

Skills

Natural language Japanese (native), English (conversant)
Programming language Python, C, Java, LaTeX