Publications

Journal Papers

[1] Yuki Ito, <u>Tomohiko Nakamura</u>, Shoichi Koyama, Shuichi Sakamoto, and Hiroshi Saruwatari, "Spatial upsampling of head-related transfer function using neural network conditioned on source position and frequency," *IEEE Open Journal of Signal Processing*, Sep. 2025.

[2] Yusaku Mizobuchi, Daichi Kitamura, <u>Tomohiko Nakamura</u>, Norihiro Takamune, Hiroshi Saruwatari, Yu Takahashi, and Kazunobu Kondo, "Music bleeding-sound reduction based on time-channel nonnegative matrix factorization," *APSIPA Transactions on Signal and Information Processing*, vol. 14, no. 1, e18, Jul. 2025.

[3] Yuto Ishikawa, <u>Tomohiko Nakamura</u>, Norihiro Takamune, Daichi Kitamura, Hiroshi Saruwatari, Yu Takahashi, and Kazunobu Kondo, "Real-time speech extraction based on rank-constrained spatial covariance matrix estimation and spatially regularized independent low-rank matrix analysis with fast demixing matrix estimation," *IEEE Access*, vol. 13, pp. 88683–88706, May 2025.

[4] Kanami Imamura, <u>Tomohiko Nakamura</u>, Kohei Yatabe, and Hiroshi Saruwatari, "Neural analog filter for sampling-frequency-independent convolutional layer," *APSIPA Transactions on Signal and Information Processing*, vol. 13, no. 1, e28, Nov. 2024.

[5] +8 papers

Peer-Reviewed International Conferences and Workshops

[1] Go Nishikawa, Wataru Nakata, Yuki Saito, Kanami Imamura, Hiroshi Saruwatari, and <u>Tomohiko Nakamura</u>, "Multi-sampling-frequency naturalness MOS prediction using self-supervised learning model with sampling-frequency-independent layer," in *Proceedings of IEEE Automatic Speech Recognition and Understanding Workshop*, Dec. 2025. (First and second authors contributed equally.)

[2] Ryan Niu, Shoichi Koyama, and <u>Tomohiko Nakamura</u>, "Head-related transfer function individualization using anthropometric features and spatially independent latent representations," in *Proceedings of IEEE Workshop on Applications of Signal Processing to Audio and Acoustics*, Oct. 2025.

[3] Hitoshi Suda, Junya Koguchi, Shunsuke Yoshida, <u>Tomohiko Nakamura</u>, Fukayama Satoru, and Jun Ogata, "IdolSongsJp corpus: A multi-singer song corpus in the style of Japanese idol groups," in *Proceedings of International Society for Music Information Retrieval Conference*, Sep. 2025.

[4] +36 papers

Invited Talks

[1] <u>Tomohiko Nakamura</u>, "Trends and prospects for audio source separation using deep learning," *Meeting on Technical Committee on Engineering Acoustics, IEICE*, Mar. 2025. (in Japanese)

[2] Daichi Kitamura, <u>Tomohiko Nakamura</u>, "Fundamentals and applications of audio source separation — A guide to becoming an expert," *2023 Otogaku Symposium*, Jun. 2023. (in Japanese)

[3] <u>Tomohiko Nakamura</u>, "Signal-processing-inspired deep learning," *IEEE NZ Signal Processing/Information Theory Joint Chapter in co-hosted by the Acoustics Research Centre, University of Auckland*, Dec. 2022.

[4] +1 invited presentation

Overview Papers

[1] Shoichi Koyama, Juliano Ribeiro, <u>Tomohiko Nakamura</u>, Natsuki Ueno, and Mirco Pezzoli, "Physics-informed machine learning for sound field estimation: Fundamentals, state of the art, and challenges," *Special Issue on Model-Based and Data-Driven Audio Signal Processing, IEEE Signal Processing Magazine*, vol. 41, pp. 60–71, 2024.

[2] Hirokazu Kameoka, <u>Tomohiko Nakamura</u>, and Norihiro Takamune, "Recent advances in music signal processing techniques," *The Journal of Institute of Electronics, Information and Communication Engineers*, vol. 98, no. 6, pp. 467–474, Jun. 2015. (in Japanese)

Patents

[1] <u>Tomohiko Nakamura</u>, "Object recognition device, method, and program," Japan Patent JP7349288, 13-Sep-2023.

[2] <u>Tomohiko Nakamura</u>, "Object recognition device, method, and program," Japan Patent JP7349290, 13-Sep-2023.

[3] +9 patents

Awards

1. The Awaya Kiyoshi Research Award, ASJ, Mar. 2024.
2. The Itakura Prize Innovative Young Researcher Award, ASJ, Mar. 2022.
3. Dean's Award of Graduate School of Information Science and Technology, The University of Tokyo, Mar. 2016.

4. +11 awards