

YUTO SHIBATA

SUMMARY

- 1st year PhD student at Aoki lab in Keio University, School of Integrated Design Engineering.
- Research experience in Keio University about acoustic-based human pose estimation.
- Having a strong interest in building privacy-conscious ML systems, such as non-image-based human sensing and federated learning.
- Several ML/DS internship experiences in Japan.
- Several Data science competition experience in Kaggle.

EXPERIENCE

Aoki Laboratory (URL: <https://aoki-medialab.jp/home-en/>) **2021– present**

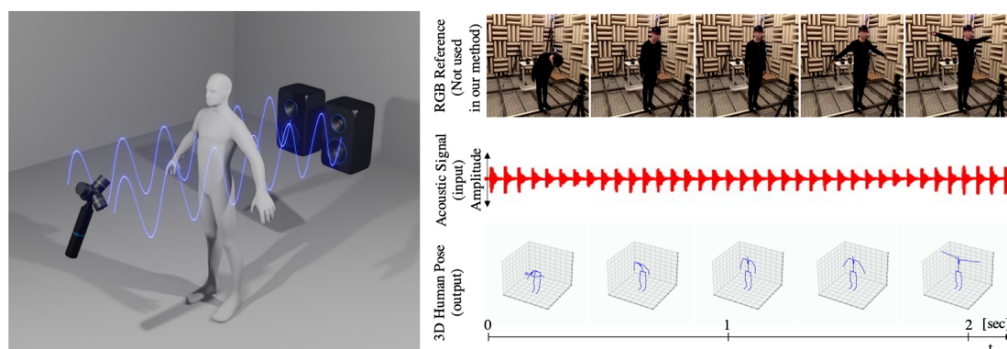
- I researched about **audio-based active sensing of Human pose** using reflected chirp signals and time-wise convolutional neural network without relying on an image or high-frequency signals such as WiFi.
- Our paper about this pose estimation with sounds was accepted by **CVPR2023** (Conference on Computer Vision and Pattern Recognition)

Shibata, Yuto, et al. "Listening human behavior: 3d human pose estimation with acoustic signals." *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition*. 2023.

Paper:

https://openaccess.thecvf.com/content/CVPR2023/html/Shibata_Listening_Human_Behavior_3D_Human_Pose_Estimation_With_Acoustic_Signals_CVPR_2023_paper.html

Project Page: https://isogawa.ics.keio.ac.jp/research_project/acoustic_3dpose.html



- My co-authored paper on an acoustic signal-based human pose estimation model in situations where individuals are positioned over a wide area has been accepted for BMVC 2024.

Yusuke Oumi, Yuto Shibata, Go Irie, Akisato Kimura, Yoshimitu Aoki, Mariko Isogawa. "Acoustic-based 3D Human Pose Estimation Robust to Human Position." The 35th British Machine Vision Conference. 2024.

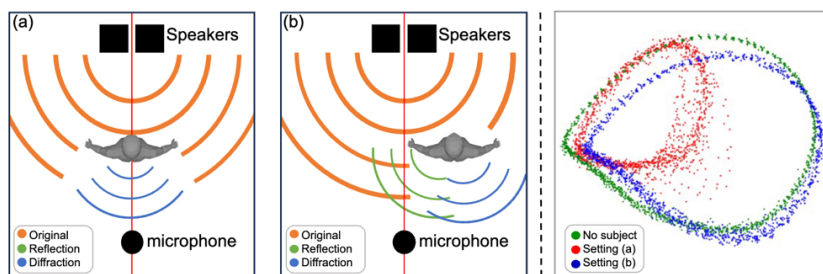
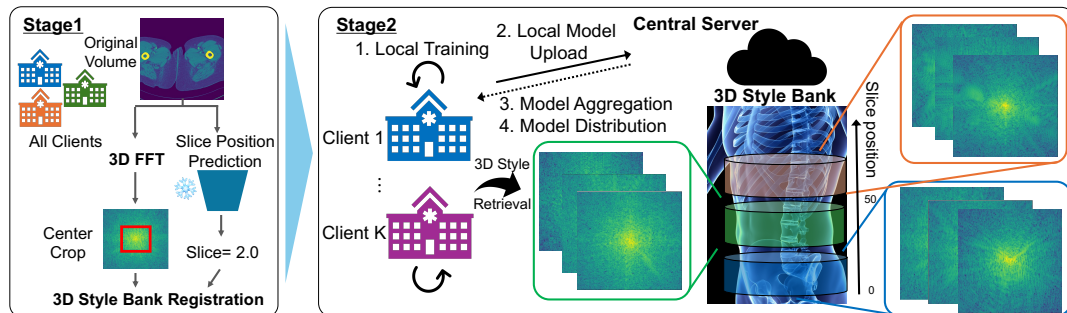


Figure 1: Left: acoustic-signal based human pose estimation with different target subject positions. Unlike the existing method that (a) utilizes obscured acoustic signals by the target subject positioned along the line between the microphone and loudspeaker, we aim to estimate (b) poses with the subject who is away from this line, which is the challenging task due to the presence of signal reflection and diffraction. Right: principal component analysis of acoustic features depending on a subject's standing position.

The National Institute of Advanced Industrial Science and Technology (AIST) July 2023 – Present
Working as a research assistant (RA) to work on acoustic analysis.

Preferred Networks, Inc. Aug 2023 – March 2024

- Joined research internship about medical Federated Learning.
- Our paper got accepted by NeurIPS2024, AIM-FM Workshop (Advancements In Medical Foundation Models: Explainability, Robustness, Security, and Beyond).
- Shibata, Yuto, et al. “Anatomical Three-Dimensional Style Transfer Enabling Efficient Federated Learning with Extremely Low Communication Costs”



Recruit Co., Ltd. Feb 2021 – Aug 2021, Aug 2022 – Mar 2022

Joined an internship to work as a ML engineer and researcher about the application of transformer for a recommendation system.

Tenchijin, Inc. Aug 2022 – Present

Worked as a data scientist and analyses GIS data.

DENTSU INC. Aug 2020 – Sep 2020

Joined an internship to analyze advertisement data as a data scientist.

EDUCATION

KEIO UNIVERSITY, Tokyo April 2018-Mar 2023

- Bachelor of Engineering (B.E.) Electronics and Electrical Engineering

University of Edinburgh Sep 2021 – June 2022

- Joined 1 year exchange program and studied computer science.

KEIO UNIVERSITY, Tokyo April 2023 – Sep 2024

- Master of Engineering. School of Integrated Design Engineering

KEIO UNIVERSITY, Tokyo Sep 2024 – Present

- PhD. School of Integrated Design Engineering

AWARDS 🏆

Frontier Award at MIRU2022 (The 25th Meeting on Image Recognition and Understanding). Jul 28th 2022

- The award given to the most pioneering initiative in research.

IPJS Yamashita SIG Research Award. Jul 28th 2023

- The award is given to presenters of particularly outstanding papers from workshops and symposium presentations.
- URL: <https://www.ipsj.or.jp/award/yamashita2023.html>

MIRU Interactive Presentation Award. Aug 9th 2024

- Awarded to the author of a paper that gave an excellent interactive presentation at the Symposium on Image Recognition and Understanding.

MIRU Student Encouragement Award.

Aug 9th 2024

- The MIRU Student Excellent Presentation Award is given to presenters (including co-authors) of outstanding oral research presentations at MIRU, where the presenter is the first author and holds student status both at the time of submission and during the presentation.

Kaggle Competition

2020 – present

Joined several data science competitions related to Image, NLP, and Table data in Kaggle.

My Kaggle Account: <https://www.kaggle.com/yutoshibata>

Achievement (Competition title/Final rank/ description)

Examples)

- OSIC Pulmonary Fibrosis Progression, 20th out of 2097, Silver medal.
 - I predicted future lung capacity of lung disease patients based on table data and lung images.
- Cassava Leaf Disease Classification, 54th out of 3900, Silver medal.
 - I classified 5 cassava diseases based on CNN and images
- CommonLit Readability Prize, 139th out of 3633, Silver medal.
 - I predicted how difficult each reading was using Transformer models.

ADDITIONAL INFORMATION

- My github account: <https://github.com/YutoShiba07>