Sihan Tan

Website: claire874.github.io
Email: tan.s.ae@m.titech.ac.jp

EDUCATION

Institute of Science Tokyo(formerly Tokyo Tech), Tokyo, Japan
Ph.D. Student in Systems and Control Engineering   04/2024 - Present
Advisor: Kazuhiro Nakadai
Activity: Tokyo Tech Academy for Super Smart Society (WISE-SSS)

Tokyo Institute of Technology, Tokyo, Japan
Master in Systems and Control Engineering   04/2022 - 03/2024
Advisor: Kazuhiro Nakadai, Katsutoshi Itoyama
Activity: Tokyo Tech Academy for Super Smart Society (WISE-SSS)
∗*Best Graduate of Systems and Control Engineering Course*

Dalian University of Technology, Dalian, China
B.E. in Digital Media Technology   09/2017 - 07/2021
Advisor: Xin Fan
∗*Outstanding Bachelor's Graduate*

EXPERIENCE

Visiting Researcher
Sign language translation   08/2024 - Present
Work with Sign Language Technology Team,
Science and Technology Research Laboratories, Japan Broadcasting Corporation (NHK).

Research Assistant
Sign language recognition, translation and human-robot interaction   04/2022 - Present
Work with Kazuhiro Nakadai,
Nakadai Laboratory, Tokyo Institute of Technology.

Internship
Sign language translation   08/2023 - 03/2024
Supervised by Taro Miyazaki,
Science and Technology Research Laboratories, Japan Broadcasting Corporation (NHK).
∗*Boosted the laboratory-level collaboration (starts at 08/2024)*

Research Assistant
Unsupervised WiFi-based Human Activity Recognition via Cross-modal Transfer   12/2019 - 07/2021
Work with Xin Fan and Lei Wang,
Wilna Laboratory, Dalian University of Technology.

PUBLICATIONS

Selected Publications
Journal
A Review of Deep Learning-based Approaches to Sign Language Processing.
Sihan Tan, Nabeela Khan, Zhaoyi An, Yoshitaka Ando, Rei Kawakami, and Kazuhiro Nakadai.
Advanced Robotics, 2024, December, 1–19.

Conference
Multilingual Gloss-free Sign Language Translation: Towards Building a Sign Language Foundation Model
Sihan Tan, Taro Miyazaki, Kazuhiro Nakadai.
In *Proceedings of the 63rd Annual Meeting of the Association for Computational Linguistics*(ACL), 2025.
Improvement in Sign Language Translation Using Text CTC Alignment
Sihan Tan, Taro Miyazaki, Nabeela Khan, Kazuhiro Nakadai.
In *Proceedings of the 31st International Conference on Computational Linguistics* (COLING), 2025.
Improving Sign Language Understanding Introducing Label Smoothing

Sihan Tan, Khanum Khan Nabeela, Katsutoshi Itoyama, Kazuhiro Nakadai.
In *Proceedings of the 32nd IEEE International Conference on Robot and Human Interactive Communication* (RO-MAN), 2023.

Workshop
[SEDA: Simple and Effective Data Augmentation for Sign Language Understanding](#)
Sihan Tan, Taro Miyazaki, Katsutoshi Itoyama, Kazuhiro Nakadai.
In *Proceedings of the LREC-COLING 11th Workshop on the Representation and Processing of Sign Languages: Evaluation of Sign Language Resources*(sign-lang), 2024.
[Sign Language Translation with Gloss Pair Encoding](#)
Taro Miyazaki, **Sihan Tan**, Tsubasa Uchida, and Hiroyuki Kaneko.
In *Proceedings of the LREC-COLING 11th Workshop on the Representation and Processing of Sign Languages: Evaluation of Sign Language Resources*(sign-lang), 2024.

AWARDS AND HONORS

Miura Award   *2024*
The award for outstanding graduates in the master's or doctoral programs, funded by Miura Corporation.
Given annually to one nominee from each department.
Issued by: The Japan Society of Mechanical Engineers.

Outstanding Paper Presentation   *2024*
Awarded for master's thesis: *Sign Language Recognition and Translation Using Deep Learning.*
Issued by: Tokyo Institute of Technology

Super Smart Society Leadership Scholarship   *2023 - Present*
Super Smart Society Leadership Scholarship for excellent and promising master's and doctoral students.
Issued by: Tokyo Institute of Technology

INVITED TALKS

Current status of sign language datasets   *08/2023*
Half day workshop, Speech-based communication for robots and systems,
32nd IEEE International Conference on Robot and Human Interactive Communication, Busan, South Korea.

Introduction of sign language processing   *03/2023*
Pohang University of Science and Technology, Pohang, South Korea.

SKILLS

Software: Python, PyTorch, TensorFlow, Linux, Matlab, C, C++
Languages: Mandarin (Native), English (Fluent, CEFR: C1), Japanese (Fluent, JLPT: N1), Japanese Sign Language (Basic), German (Basic)

REFERENCES

Available by asking
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