

Sihan Tan

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

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

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

Research Assistant 12/2019 - 07/2021
Unsupervised WiFi-based Human Activity Recognition via Cross-modal Transfer
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

[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

Kazuhiro Nakadai

Professor (IEEE Fellow)

Department of Systems and Control Engineering, School of Engineering,

Tokyo Institute of Technology

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Xin Fan

Professor, Dean

School of Software Technology and International School of Information Science and Engineering,

Dalian University of Technology

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