Yui Tatsumi

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https://qwert-top.github.io | https://github.com/qwert-top | https://www.linkedin.com/in/qwert-top

EDUCATION

Waseda University Tokyo, Japan
MEng in Computer Science and Communications Engineering Apr 2025 – Expected Mar 2027
Relevant Coursework: Natural Language Processing, Software Development

BEng in Communications and Computer Engineering, GPA: 3.6/4.0 (top 5%) Apr 2021 - Mar 2025
Relevant Coursework: Computer Programming, Multimedia Systems, Artificial Intelligence, Software Engineering, Computer Architecture, Algorithms and Data Structures, Operating System, Signal Processing, Probability and Statistics, Linear Algebra, Calculus, Discrete Mathematics and more.

International Christian University High School Tokyo, Japan
General Education, GPA: 4.8/5.0 Sep 2018 – Mar 2021

EXPERIENCE

Waseda University Tokyo, Japan
Graduate Research Student at Advanced Multimedia Systems Lab Apr 2025 – Expected Mar 2027

- Leading a research project on Learned Image Compression for Humans/Machines.

Undergraduate Research Student at Advanced Multimedia Systems Lab Sep 2023 – Mar 2025

- Created a neural network based Japanese Sign Language classification model which classify sentence types by focusing on the facial expressions. Achieved a classification accuracy of 96.05%.
- Created a neural network based scalable image compression model which compress images for both human vision and machine vision simultaneously, by utilizing the residual information. Outperformed the previous method by 4.23% in BD-rate.
- Published two first-authored papers at *IEEE GCCE 2024* and *PCSJ/IMPS 2024*.

Research Student at Natural Language Processing Lab Apr 2023 – Aug 2023

- Participated in Kaggle's "Google - American Sign Language Fingerspelling Recognition" competition, working on machine learning, data analysis, and visualization to recognize ASL fingerspelling.

National Institute of Information and Communications Technology (NICT) Tokyo, Japan
Commissioned Research Assistant Apr 2025 – Expected Mar 2026

- Working on research projects such as Scalable Image Coding for Humans and Machines and Video Frame Interpolation.

Commissioned Research Support Stuff Apr 2024 – Mar 2025

- Worked on three research projects: Image Coding for Machines, Scalable Image Coding for Humans and Machines and Video Frame Interpolation.
- Published eight papers at conferences such as *IEEE MMSP 2024* and *IEEE ICCE 2025* as a commissioned research team from Waseda University.

Overseas Experience Hawaii, U.S.

- Lived in Oahu Island, Hawaii, and went to public middle and high school. Oct 2015 – Jun 2018

PUBLICATIONS

Conference Papers

- Evaluation of Face Recognition Accuracy in Decoded Images for Machine Vision
  Takahiro Shindo, Taiju Watanabe, **Yui Tatsumi**, Hiroshi Watanabe
  IPSJ 2025 (in Japanese)

- Video Frame Interpolation Using Pretrained Diffusion Model
  Taiju Watanabe, Takahiro Shindo, **Yui Tatsumi**, Hiroshi Watanabe
  IPSJ 2025 (in Japanese)

- Delta-ICM: Entropy Modeling with Delta Function for Learned Image Compression
  Takahiro Shindo, Taiju Watanabe, **Yui Tatsumi**, Hiroshi Watanabe
  IEEE ICCE 2025

- Scalable Image Coding for Humans and Machines Using Feature Differences
  Yui Tatsumi, Takahiro Shindo, Taiju Watanabe, Hiroshi Watanabe
  PCSJ/IMPS 2024 (in Japanese)

- Assessing the Effectiveness of ICM Method for Privacy Protection
  Takahiro Shindo, Taiju Watanabe, **Yui Tatsumi**, Hiroshi Watanabe
  PCSJ/IMPS 2024 (in Japanese)

- Classification in Japanese Sign Language Based on Dynamic Facial Expressions
  Yui Tatsumi, Shoko Tanaka, Shunsuke Akamatsu, Takahiro Shindo, Hiroshi Watanabe
  IEEE GCCE 2024

- Integrating QR Code Characteristics Into Super-Resolution Method
  Shoko Tanaka, **Yui Tatsumi**, Takahiro Shindo, Hiroshi Watanabe
  IEEE GCCE 2024

- Refining Coded Image in Human Vision Layer Using CNN-Based Post-Processing
  Takahiro Shindo, **Yui Tatsumi**, Taiju Watanabe, Hiroshi Watanabe
  IEEE GCCE 2024

- Scalable Image Coding for Humans and Machines Using Feature Fusion Network
  Takahiro Shindo, Taiju Watanabe, **Yui Tatsumi,** Hiroshi Watanabe
  IEEE MMSP 2024

- Evaluation of Face Recognition Accuracy in Decoded Images for Machine Vision
  Taiju Watanabe, Takahiro Shindo, **Yui Tatsumi**, Hiroshi Watanabe
  ITE Annual Convention 2024 (in Japanese)

AWARDS

Waseda University Department Award: Honored for research activities, top 5 out of 90 students. Mar 2025
IEEE GCCE 2024 Presentation Award: Selected based on the quality of the presentations and Q&As. Nov 2024

SKILLS

Programming Languages: Python (with Numpy/Pandas), C, Java, some JavaScript, HTML, CSS.
Frameworks and Application Tools: Pytorch, OpenCV; Microsoft Office.
Languages: Japanese (Native), English, Japanese Sign Language

QUALIFICATIONS

TOEIC 955 Dec 2024
TOEFL iBT 93 Oct 2019
The EIKEN Test in Practical English Proficiency Grade pre-1 Jul 2017

OTHER ACTIVITIES

Japanese Sign Language Club Apr 2021 – Mar 2025
- Studied Japanese Sign Language and Deaf culture at Sign language club at Waseda University.
- As the president of the club, led a team of about 120 members.
- Supported students at Chuo School for the Deaf with their studies using sign language.

Educational Tutor Apr 2021 – Mar 2025
- Part-time work providing supplementary teaching to elementary, junior high, and high school students mainly on Math, Science and English at Yoyogi Kobetsu Shido Gakuin, Saitama, Japan

Mobile Sales Associate Apr 2021 - May 2022
- Acquired knowledge of mobile carriers and devices, assessed customer needs, and proposed and completed service contracts tailored to each client at Nojima Corporation, Saitama, Japan.