Takaaki Saeki

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EDUCATION

The University of Tokyo — Tokyo, Japan
Ph.D. Degree in Graduate School of Information Science and Technology — *Apr. 2021 – Present*
- Supervisor: Prof. Hiroshi Saruwatari

The University of Tokyo — Tokyo, Japan
Master's Degree in Graduate School of Information Science and Technology — *Apr. 2019 – Mar. 2021*
- Thesis Title: "Real-Time, Full-Band, High-Quality Neural Voice Conversion with Sub-Band Modeling and Data-Driven Phase Estimation"
- Supervisor: Prof. Hiroshi Saruwatari

The University of Tokyo — Tokyo, Japan
Bachelor's Degree in Aerospace Engineering — *Apr. 2015 – Mar. 2019*
- Supervisor: Prof. Kimiya Komurasaki

WORK EXPERIENCE

The University of Tokyo — Tokyo, Japan
Research Assistant — *May 2020 – Present*
- Researching on text-to-speech synthesis and voice conversion.
- Advisor: S. Takamichi & H. Saruwatari

LINE Corporation — Tokyo, Japan
Part-Time Researcher — *Mar. 2021 – Present*
- Designing research proposals and implementing new text-to-speech synthesis methods.
- Advisor: K. Tahchibana & R. Yamamoto

Preferred Networks, Inc. — Tokyo, Japan
Research Intern — *Aug. 2021 – Sep. 2021*
- Researched on application of machine learning to music creation
- Advisor: D. Higurashi, B. Vogel, and J. Naradowsky

NEC Data Science Research Laboratories — Kanagawa, Japan
Research Intern — *Aug. 2019 – Sep. 2019*
- Worked on speech enhancement.
- Advisor: O. Hoshuyama

The University of Tokyo — Tokyo, Japan
Teaching Assistant — *Apr. 2019 – July 2019*
- Lectured how to develop audio-based interaction system in "Project Practice" course.

Recruit Holdings Co., Ltd. — Tokyo, Japan
Data Engineering Intern & Part-Time Engineer — *Feb. 2019 – June 2019*
- Worked on data analysis and developed recommendation engine.
- Lectured a training course of data analysis for newcomers.
- Advisor: N. Osugi

Delight Inc. — Tokyo, Japan
Part-Time Engineeer — *May 2017 – Apr. 2019*
- Developed simulation software of fluid dynamics.
- Read research papers and implemented algorithms of thermo-fluid dynamics.

TECHNICAL SKILLS

Languages: Python, C/C++, Shell, LaTeX, SQL (BigQuery), HTML/CSS
Developer Tools: Git, Docker, Amazon Web Service, Google Cloud Platform, VS Code
Libraries: NumPy, pandas, PyTorch, Tensorflow, Chainer

Language skills

Japanese (native) and English (conversant)

Honors and Awards

Research Fellowship for Young Scientists (DC2) (2,400,000 JPY/year)	*Apr. 2022 – Mar. 2024*
Tobitate Study Abroad Initiatives (160,000 JPY/month)	*July 2021*
TOYOTA/Dwango AI Scholarship (1,200,000 JPY/year)	*Apr. 2021 – Mar. 2022*
IEICE ISS Best Student Poster Award	*IEICE Speech Committee 2021*	*Mar. 2021*
Award for Excellence (2nd place)	*Natural Language Processing Hackathon at Recruit Co., Ltd.*	*Feb. 2019*

Publications (Peer-Reviewed Paper)

1. **Takaaki Saeki**, Shinnosuke Takamichi, and Hiroshi Saruwatari,
"Low-latency Incremental Text-to-Speech Synthesis with Distilled Context Prediction Network,"
in *Proc. ASRU*, Dec. 2021. (Accepted)

2. **Takaaki Saeki**, Yuki Saito, Shinnosuke Takamichi, and Hiroshi Saruwatari,
"Real-time Full-Band Voice Conversion with Sub-Band Modeling and Data-Driven Phase Estimation of Spectral Differentials,"
IEICE Transactions on Information and Systems, vol. E104-D, no.7, pp. 1002–1016, Jul. 2021.

3. **Takaaki Saeki**, Shinnosuke Takamichi, and Hiroshi Saruwatari,
"Incremental Text-to-Speech Synthesis Using Pseudo Lookahead with Large Pretrained Language Model,"
IEEE Signal Processing Letters, vol. 28, pp. 857–861, Apr. 2021.

4. **Takaaki Saeki**, Yuki Saito, Shinnosuke Takamichi, and Hiroshi Saruwatari,
"Real-Time, Full-Band, Online DNN-Based Voice Conversion System Using a Single CPU,"
in *Proc. INTERSPEECH*, pp. 1021–1022, Shanghai, China, Oct. 2020.

5. Naoki Kimura, Zixiong Su, and **Takaaki Saeki**,
"End-to-End Deep Learning Speech Recognition Model for Silent Speech Challenge,"
in *Proc. INTERSPEECH*, pp. 1025–1026, Shanghai, China, Oct. 2020..

6. **Takaaki Saeki**, Yuki Saito, Shinnosuke Takamichi, and Hiroshi Saruwatari,
"Lifter Training and Sub-Band Modeling for Computationally Efficient and High-Quality Voice Conversion Using Spectral Differentials,"
in *Proc. ICASSP*, pp. 7784–7788, Barcelona, Spain, May 2020.

Exhibitions

Sainokuni Buisiness Arena 2021	ONLINE
"Research on Stress-Free, Real-Time, and Full-Band Voice Conversion Based on Perceptual Model"	*Jan. 2021*
CEATEC 2020	ONLINE
"Research on Stress-Free, Real-Time, and Full-Band Voice Conversion Based on Perceptual Model"	*Oct. 2020*

Patents (Selected)

Shinnosuke Takamichi, Yuki Saito, **Takaaki Saeki**, and Hiroshi Saruwatari,
"Voice Conversion System, Method, and Program,"
International Patent Application No. PCT/JP2021/4367. (Submitted)

Shinnosuke Takamichi, Yuki Saito, **Takaaki Saeki**, and Hiroshi Saruwatari,
"Voice Conversion System, Method, and Program,"
International Patent Application No. PCT/JP2020/031122. (Submitted)

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