SHU SAKAMOTO

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Research Keywords: Neuroscience & Music (Neuromusic), Auditory System, Music Cognition, Emotion, Predictive Coding, EEG, Neural Oscillation, Brain-Computer Interface

EDUCATION

2020 – Present **Graduate School of Media and Governance, Keio University**
Research Topic: Neuroscience and Music
Research Supervisor: Dr. Shinya Fujii, Dr. Atsuhi Aoyama
GPA: N/A

2017 – 2020 **Faculty of Environment and Information Studies, Keio University**
Bachelor's-Master's Four-Year Integrated Education Program
Excellent Graduation Project
Research Topic: Neuroscience and Music
Research Supervisor: Dr. Shinya Fujii, Dr. Atsuhi Aoyama
GPA: 3.86

WORK EXPERIENCES

2020.10 – Present **Research Intern**
International Research Center for Neurointelligence. Supervised by Dr. Tatsuya Daikoku.

2018.12 – Present **Neuro-Engineer**
Sandbox Inc.

2017.07 – Present **Translator**
Freelance

2019.12 – 2020.06 **Writer**
Techflyer Inc.

2018.02 – 2020.04 **Research Intern**
NTT Communication Science Laboratories. Supervised by Dr. Makio Kashino.

2019.02 – 2019.07 **Engineer**
Probspace Inc.

HONORS AND AWARDS

2020	**Gold Prize** Online Conference, Keio SFC Academic Society
2020	**Excellent Graduation Project** Faculty of Environment and Information Studies, Keio University
2020	**Given "Likes" (9th place)** The 43rd Annual Meeting of the Japan Neuroscience Society
2019	**Student Paper Award (3rd Prize)** 2019 IEEE 1st Global Conference on Life Sciences and Technologies
2018	**Abe Research Award for Young Researchers** (Nominated) The 57th Annual Conference of Japanese Society for Medical and Biological Engineering

PUBLICATIONS

Sakamoto, S., Kobayashi, A., Matsushita, K., Shimizu, R., & Aoyama, A, "Decoding Relative Pitch Imagery Using Functional Connectivity: An Electroencephalographic Study", in *Proceedings of 2019 IEEE 1st Global Conference on Life Sciences and Technologies (LifeTech)*, vol. 1, 2019, pp. 48-49.

CONFERENCE PRESENTATIONS

TALKS

Sakamoto, S. (2020). Neural Oscillations Related to Auditory Imagery and Neural Representations of Imaged Sound. Talk presented at the *Online Conference, Keio SFC Academic Society*. Online.

Sakamoto, S., Kobayashi, A., Matsushita, K., Shimizu, R., & Aoyama, A. (2019). Decoding Relative Pitch Imagery Using Functional Connectivity: An Electroencephalographic Study. Talk presented at the *2019 IEEE 1st Global Conference on Life Sciences and Technologies*. Osaka, Japan.

Watanabe, N., **Sakamoto, S.,** & Aoyama, Atsushi. (2018). *Ketsugouon ni Chakumoku Shita Waon ni Kannsuru Noujouhoushori no Kentou* [Investigating Neural Processing of Chords Focusing on Combination Tones]. Talk presented at the 21st Application of Multimodal Neural Information Symposium in Japanese Society of Medical and Biological Engineering. Yokohama, Japan

POSTERS

Sakamoto, S., Aoyama, A. and Fujii, S. (2020). Electroencephalographic Activity While Anticipating Uncertainty Resolution in Music. Poster presented at *The 43rd Annual Meeting of the Japan Neuroscience Society*. Online.

Sakamoto, S., Kobayashi, A., Matsushita, K., Shimizu, R. and Aoyama, A. (2019). Classification of electroencephalographic oscillations during relative pitch imagery. *Society for Neuroscience, 2019*. Chicago, IL

Sakamoto, S., Kobayashi, A., Matsushita, K., Shimizu, R., & Aoyama, A. (2019). Classification of Electroencephalogram during Pitch Imagery based on Relative Pitch Change. Poster presented at *The 58th Annual Conference of Japanese Society for Medical and Biological Engineering.* Okinawa, Japan.

Sakamoto, S., Matsushita, K., Kobayashi, A., Shimizu, R., & Aoyama, A. (2018). Classification of EEG data during imagery of higher and lower pitched sounds. Poster presented at *The 41st Annual Meeting of the Japan Neuroscience Society.* Kobe, Japan.

Kobayashi, A., **Sakamoto, S.,** Matsushita, K., Shimizu, R., & Aoyama, A. (2018). Classification of EEG data during imaging higher and lower pitched sounds using machine learning. Poster Presented at *The 57th Annual Conference of Japanese Society for Medical and Biological Engineering.* Sapporo, Japan. (Presenter)

GRANTS

Full Scholarship. GAO Scholarship. 2020. (1,460,000 JPY)

Research Grant. Yamagishi Student Project Support Program. 2020. (150,000 JPY)

Research Grant. Incentive to Study and Conduct Research Through SFC Education Promotion Foundation. 2019. (210,000 JPY)

Research Grant. Incentive to Study and Conduct Research Through SFC Education Promotion Foundation. 2018. (160,000 JPY)

Research Grant. Keio SFC Academic Society. 2018. (14,300 JPY)

TEACHING EXPERIENCE

INSTRUCTOR OF RECORD

2017.07 – 2020.02	**Private Tutor of High School Math**
2018.02 – 2020.02	**Private Tutor of Junior High School Math and Physics**
2019.10 – 2020.01	**Private Tutor of College Math**
2020.02 – 2020.06	**Private Tutor of Junior High School Math and Physics**

TEACHING ASSISTANTSHIPS

2020.09 – 2021.02	**Evolution of Music**, Keio University (Patrick E. Savage, Ph.D.)
2020.09 – 2021.02	**History of Music**, Keio University (Patrick E. Savage, Ph.D.)
2018.04 – 2021.02	**Calculus,** Keio University (Atushi Aoyama, Ph.D.)
2019.09 – 2019.02	**Neural Information Science**, Keio University (Atsushi Aoyama, Ph.D.)
2020.04 – 2020.07	**Music and Brain**, Keio University (Shinya Fujii, Ph.D.)
2020.04 – 2020.07	**Knowledge Processing and Discovery**, Keio University (Yasushi Kiyoki, Ph.D. and Atsushi Aoyama, Ph.D.)
2020.04 – 2020.07	**Sing**, Keio Unievrsity (Yoichi Kitayama)

SKIILS

LANGUAGE

Japanese Native

English Fluent.
TOEFL iBT 105. TOEIC 990, EIKEN Grade1. Graduated from Phillips Academy, a boarding school in Massachusetts.

COURSEWORK

Experimental neuroscience, cognitive neuroscience, machine learning, signal processing, musicology

PROGRAMMING

Proficient	Matlab, Python, Git, LaTeX, UNIX
Basic	C, R, Mathematica, Haskell, HTML, Javascript, CSS

TRAINING EXPERIENCE

2019.09	**Free Energy Principle Workshop** National Institute of Physiological Sciences
2017.09 – 2018.07	**Brain Science Training Program** RIKEN Center for Brain Science
2018.02 – 2018.04	**NICO2AI School** Dwango AI Lab.