

# 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

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2017 – Present      **Keio University**, Undergraduate  
**Bachelor's-Master's Four-Year Integrated Education Program**  
Research Topic:      Neuroscience and Music  
Research Supervisor: Dr. Shinya Fujii, Dr. Atsuhiko Aoyama  
GPA:                      3.82

## WORK EXPERIENCES

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2019.12 – Present      **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.  
2018.12 – 2019.04      **Neuro-Engineer**  
Sandbox Inc.  
2017.07 – Present      **Translator**  
Freelance

## HONORS AND AWARDS

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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

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**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

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### TALKS

**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). Uncertainty Resolution and Anticipation of Pleasure in Chord Progression: An EEG Study. *Neuroscience and Music VII*. Aarhus, Denmark. (Accepted)

**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

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<b>Full Scholarship.</b>	GAO Scholarship. 2020. (1,460,000 JPY)
<b>Research Grant.</b>	Yamagishi Student Project Support Program. 2020. (150,000 JPY)
<b>Research Grant.</b>	Incentive to Study and Conduct Research Through SFC Education Promotion Foundation. 2019. (210,000 JPY)
<b>Research Grant.</b>	Incentive to Study and Conduct Research Through SFC Education Promotion Foundation. 2018. (160,000 JPY)
<b>Research Grant.</b>	Keio SFC Academic Society. 2018. (14,300 JPY)

## TEACHING EXPERIENCE

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### *INSTRUCTOR OF RECORD*

2017.07 – 2020.02	<b>Private Tutor of High School Math</b>
2018.02 – 2020.02	<b>Private Tutor of Junior High School Math and Physics</b>
2019.10 – 2020.01	<b>Private Tutor of College Math</b>
2020.02 – Present	<b>Private Tutor of Junior High School Math and Physics</b>

### *TEACHING ASSISTANTSHIPS*

2018.04 – 2020.07	<b>Calculus</b> , Keio University (Atushi Aoyama, Ph.D.)
2019.09 – 2019.02	<b>Neural Information Science</b> , Keio University (Atsushi Aoyama, Ph.D.)
2020.04 – 2020.07	<b>Music and Brain</b> , Keio University
2020.04 – 2020.07	<b>Knowledge Processing and Discovery</b> , Keio University (Yasushi Kiyoki, Ph.D. and Atsushi Aoyama, Ph.D.)
2020.04 – 2020.07	<b>Sing</b> , Keio University (Yoichi Kitayama)

## SKILLS

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### *LANGUAGE*

<b>Japanese</b>	Native
<b>English</b>	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*

<b>Proficient</b>	Matlab, Python, Git, LaTeX, UNIX
<b>Basic</b>	C, R, Mathematica, Haskell, HTML, Javascript, CSS

## TRAINING EXPERIENCE

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