

Hiromu YAKURA

GENERAL INFORMATION

Place: Tokyo, Japan
Email: hiromu1996@gmail.com
Web: <http://yumetaro.info>
Date of Birth: 13 September, 1996
Research Interest: Human-Computer Interaction, Machine Learning, Music Information Retrieval, Computer Security
Languages: Japanese (native), English (business)

EDUCATION

Mar 2021	Master of Engineering, University of Tsukuba , Tsukuba, Japan Thesis: <i>Peripheral Intelligent Interaction: A novel interaction design presenting media contents to the peripheral area of a user's consciousness with machine learning</i> Advisor: Prof. Masataka Goto
Mar 2019	Bachelor of Information Engineering, University of Tsukuba , Tsukuba, Japan Thesis: <i>Audio Adversarial Example for Over-the-Air Attack against Speech Recognition Systems</i> Advisor: Prof. Jun Sakuma GPA: 4.12 / 4.3
Mar 2015	High School Diploma, Nada High School , Kobe, Japan

ACADEMIC EXPERIENCE

<i>Present</i>	Media Interaction Group, AIST, Tsukuba, Japan
Apr 2019	<i>Student Researcher</i> Working with Dr. Masataka Goto.
Mar 2019	Center of Advanced Intelligence Project, RIKEN, Tokyo, Japan
Nov 2017	<i>Student Researcher</i> Worked with Prof. Jun Sakuma.
Mar 2019	Media Interaction Group, AIST, Tsukuba, Japan
May 2015	<i>Intern Student</i> Worked with Dr. Masataka Goto and Dr. Tomoyasu Nakano.

INDUSTRY EXPERIENCE

Mar 2021	Teambox Inc., Tokyo, Japan
Nov 2015	<i>Chief Technology Officer</i> Led development teams of Web applications and analysis systems for providing training programs in human resource development. Also, led research projects to be published as academic papers at ACM CHI '19 and '20, which have been integrated in production systems.
Oct 2015	Teambox Inc., Tokyo, Japan
Jan 2015	<i>Technologist</i> Developed Web and iOS applications for providing training programs in human resource development.

PUBLICATIONS

Refereed Journal Papers

- Apr 2021 | Riku Arakawa* and Hiromu Yakura* (*equal contribution*):
“Reaction or Speculation: Building Computational Support for Users in Catching-Up Series Based on an Emerging Media Consumption Phenomenon,”
Proceedings of the ACM on Human-Computer Interaction, Vol. 5, No. CSCW1 (Special Issue on **ACM CSCW 2021**), pp. 151:1–151:28.
- Nov 2019 | Hiromu Yakura, Shinnosuke Shinozaki, Reon Nishimura, Yoshihiro Oyama and Jun Sakuma:
“Neural Malware Analysis with Attention Mechanism,”
Computers & Security, Vol. 87, No. 101592, (IF 3.062).

Peer-Reviewed Conference Papers

- Aug 2021 | Hiromu Yakura, Yuki Koyama and Masataka Goto:
“Tool- and Domain-Agnostic Parameterization of Style Transfer Effects Leveraging Pretrained Perceptual Metrics,”
In *Proceedings of the 30th International Joint Conference on Artificial Intelligence (IJCAI 2021)*, pp. 1208–1216, (acceptance rate: 13.9%).
- Apr 2021 | Riku Arakawa* and Hiromu Yakura* (*equal contribution*):
“Mindless Attractor: A False-Positive Resistant Intervention for Drawing Attention Using Auditory Perturbation,”
In *Proceedings of the 2021 ACM SIGCHI Conference on Human Factors in Computing Systems (ACM CHI 2021)*, No. 99, (acceptance rate: 26.3%).
- Apr 2021 | Hiromu Yakura:
“No More Handshaking: How have COVID-19 pushed the expansion of computer-mediated communication in Japanese idol culture?,”
In *Proceedings of the 2021 ACM SIGCHI Conference on Human Factors in Computing Systems (ACM CHI 2021)*, No. 645, (acceptance rate: 26.3%).
- Nov 2020 | Hiromu Yakura and Masataka Goto:
“Enhancing Participation Experience in VR Live Concerts by Improving Virtual Audience Avatars,”
In *Proceedings of the 19th IEEE International Symposium on Mixed and Augmented Reality (IEEE ISMAR 2020)*, pp. 555–565, (acceptance rate: 28.8%).
- Oct 2020 | Riku Arakawa* and Hiromu Yakura* (*equal contribution*):
“Mimicker-in-the-Browser: A Novel Interaction Using Mimicry to Augment the Browsing Experience,”
In *Proceedings of the 22nd ACM International Conference on Multimodal Interaction (ACM ICMI 2020)*, pp. 351–360, (acceptance rate: 37.6%).
- Apr 2020 | Riku Arakawa* and Hiromu Yakura* (*equal contribution*):
“INWARD: A Computer-Supported Tool for Video-Reflection Improves Efficiency and Effectiveness in Executive Coaching,”
In *Proceedings of the 2020 ACM SIGCHI Conference on Human Factors in Computing Systems (ACM CHI 2020)*, No. 574, (acceptance rate: 24.3%).
- Apr 2020 | Hiromu Yakura, Youhei Akimoto and Jun Sakuma:
“Generate (non-software) Bugs to Fool Classifiers,”
In *Proceedings of the 34th AAAI Conference on Artificial Intelligence (AAAI 2020)*, pp. 1070–1078, (acceptance rate: 20.6%).

- Mar 2019 | Hiromu Yakura and Jun Sakuma:
“Robust Audio Adversarial Example for a Physical Attack,”
In *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI 2019)*, pp. 5334–5441, (acceptance rate: 17.9%).
- May 2019 | Riku Arakawa* and Hiromu Yakura* (*equal contribution*):
“REsCUE: A framework for REal-time feedback on behavioral CUEs using multi-modal anomaly detection¹,”
In *Proceedings of the 2019 ACM CHI Conference on Human Factors in Computing Systems (ACM CHI 2019)*, No. 572, (acceptance rate: 23.8%).
- Mar 2018 | Hiromu Yakura, Shinnosuke Shinozaki, Reon Nishimura, Yoshihiro Oyama and Jun Sakuma:
“Malware Analysis of Imaged Binary Samples by Convolutional Neural Network with Attention Mechanism,”
In *Proceedings of the 8th ACM Conference on Data and Application Security and Privacy (ACM CODASPY 2018)*, pp. 127–134, (acceptance rate: 31.8%).
- Mar 2018 | Hiromu Yakura, Tomoyasu Nakano and Masataka Goto:
“FocusMusicRecommender: A System for Recommending Music to Listen to While Working,”
In *Proceedings of the 23rd Annual Meeting of the Intelligent Interfaces Community (ACM IUI 2018)*, pp. 7–18, (acceptance rate: 22.9%).

Peer-Reviewed Conference Posters

- Mar 2018 | Hiromu Yakura, Shinnosuke Shinozaki, Reon Nishimura, Yoshihiro Oyama and Jun Sakuma:
“Malware Analysis of Imaged Binary Samples by Convolutional Neural Network with Attention Mechanism,”
In *Proceedings of the 10th ACM Workshop on Artificial Intelligence and Security (ACM AISec 2017)*, pp. 55–56, (acceptance rate: 38.9%).

Patents

- Apr 2021 | Evaluation support system, **JP 6469466**.
- Dec 2018 | Monitoring equipment, method, and program, **JP 6867701**.

GRANTS

- Mar 2023 | Japan Science and Technology Agency – ACT-X
Oct 2020 | **\$45,000**
- Aug 2022 | Microsoft Research PhD Fellowship
Oct 2021 | **\$10,000**
- Aug 2021 | Google PhD Fellowship
Oct 2020 | **\$10,000**
- Dec 2013 | SUGOUDE IT Super Engineer Support Program
Jun 2013 | **\$20,000**
- Aug 2012 | Japan Information-technology Promotion Agency – Mitou Program
Feb 2012 | **\$12,000** (Youngest Selection)

¹These researches were conducted as an independent project by two undergraduate students.

SELECTED AWARDS AND HONORS

Apr 2021	ACM CHI 2021: Best Paper Honorable Mention Awarded for “Mindless Attractor” (top: 5%).
Mar 2021	University of Tsukuba: President’s List Selected as 10 outstanding students among about 2,200 graduates of 2021.
Mar 2020	Information Processing Society of Japan (IPSJ): Yamashita Research Award Awarded for “Robust Audio Adversarial Example for a Physical Attack.”
Mar 2019	University of Tsukuba: President’s List Selected as 10 outstanding students among about 2,300 graduates of 2019.
Mar 2019	Japan Society of Security Management: Tsujii Shigeo Security Paper Award Awarded for “Neural Malware Analysis with Attention Mechanism.”
Oct 2018	IPSJ Computer Security Symposium: Best Paper Award Awarded for “Robust Audio Adversarial Example for a Physical Attack.”
Oct 2017	IPSJ Computer Security Symposium: Best Paper Award Awarded for “Neural Malware Analysis with Attention Mechanism.”
Jan 2017	SECCON CTF Final (Rank: 3rd): Minister of Education, Culture, Sports, Science and Technology Award Participated as a team “dodododo.”
Sep 2016	Data Science Game Final (Rank: 6th) Participated as a team “Melting.”
Aug 2016	IPSJ SIGMUS Summer Symposium: Best Student Research Award and Best Presentation Award Awarded for “FocusMusicRecommender.”
Jan 2016	SECCON CTF Final (Rank: 1st): Minister of Education, Culture, Sports, Science and Technology Award Participated as a team “dodododo.”
Aug 2014	DEFCON CTF Final (Rank: 13th) Participated as a team “binja.”
May 2014	Intel International Science and Engineering Fair: Fondazione Bruno Kessler Award Awarded for the research of automated chorus section detection in music using metadata on the Web.
Apr 2014	CODEGATE Junior Final (Rank: 6th) Participated as an individual player.
Dec 2013	Japan Science and Engineering Challenge: Minister of State for Science and Technology Policy Award Awarded for the research of automated chorus section detection in music using metadata the Web.
Oct 2013	U-20 Programming Contest: Minister of Economy, Trade and Industry Award Awarded for the development of an open-source learning platform for competitive programming.
Dec 2012	Japan Science and Engineering Challenge: Minister of Education, Culture, Sports, Science and Technology Award Awarded for the research of Android malware detection based on behavior history.
May 2012	Asia-Pacific Information Olympiad: Bronze Medal Participated as the Japan national team.

COMPUTER SKILLS

Languages: Python, C, C++, JavaScript, PHP, Swift, Objective-C, Kotlin, Bash, \LaTeX

Platforms: Web (backend/frontend/database), iOS, Linux (server/kernel), Mac

Design: Adobe Illustrator, Adobe Photoshop, HTML/CSS

ACADEMIC SERVICES

Program Committee

- ACM SIGCHI Conference on Human Factors in Computing Systems 2021 – Late-Breaking Work

External Reviewer

- IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems
- IEEE Transactions on Cognitive Communications and Networking
- IEEE Transactions on Artificial Intelligence
- Journal of Information Security and Applications
- Computers & Security
- ACM SIGCHI Conference on Human Factors in Computing Systems 2021, 2022
- ACM Conference on Computer-Supported Cooperative Work and Social Computing 2021