

Shunsuke Kitada

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Education

Starting Apr 2020	Hosei University Graduate School Ph.D. student in Engineering Department of Applied Informatics	Tokyo, Japan
Mar 2020 Apr 2018	Hosei University Graduate School Master in Engineering Department of Applied Informatics	Tokyo, Japan
Dec 2018 Apr 2014	Hosei University Bachelor of Science and Engineering	Tokyo, Japan

Selected Research Projects

Robust and Interpretable Deep Learning Models Apr'19 - Present

Advisor: Dr. Hitoshi Iyatomi

- > Working on interpretable deep learning models, especially for natural language processing (NLP). Focusing on the vulnerability of perturbations in the attention mechanisms, developed new training technique to overcome the weakness, making attention mechanisms more robust and interpretable.
- > Developed a general training technique to overcome the vulnerability to perturbations in attention mechanisms, inspired by adversarial training which is a powerful regularization technique for enhancing the robustness of deep learning models. [📄] [IEEE Access'20]
- > Developing an extension of the above method to semi-supervised learning, with additional use of unlabeled data to further improve robustness and interpretability of the model. [In Submission]

Multi-modal Deep Learning Models for Supporting Ad Creative Operations Aug'18 - Present

Advisors: Dr. Yoshifumi Seki, Dr. Hitoshi Iyatomi

- > Working on supporting the operations of effective/ineffective online ad creatives based on recent machine learning.
- > Developed a framework to support the creation of effective ad creatives. [📄] [KDD'19]
- > Developed a framework to support the discontinuation of ineffective ad creatives. [📄] [Appl. Sci'22]

Glyph-aware NLP for Effectively Modeling Asian Languages Apr'17 - Present

Advisor: Dr. Hitoshi Iyatomi

- > Working on establishing effective NLP for Asian languages that have visual meanings in their characters.
- > Developed a glyph-aware disentangled embedding and semantic sub-character augmentation, a data augmentation method using its characteristics. [📄] [AAACL-IJCNLP'20 SRW]
- > Developed a new end-to-end model composed character encoder - text classifier architecture for visually unique characters. This NLP model, in which character images are input, can be extended with data augmentation used in computer vision field. For Japanese: [📄] [AIPRW'18]; For Arabic: [📄] [ACL'20 SRW]

Selected Publications

IJ=International Journal, IC=International Conference, DC=Domestic Conference in Japan

- [IJ.2] **Ad Creative Discontinuation Prediction with Multi-Modal Multi-Task Neural Survival Networks** [📄]
Shunsuke Kitada, Hitoshi Iyatomi, Yoshifumi Seki
Applied Sciences. 2022; 12(7):3594. [App. Sci.'22]
- [IJ.1] **Attention Meets Perturbations: Robust and Interpretable Attention With Adversarial Training** [📄] [📄] [📄]
Shunsuke Kitada, Hitoshi Iyatomi
IEEE Access, vol. 9, pp. 92974 - 92985, 2021. (2020 IF = 3.367) [IEEE Access'21]
- [IC.4] **Conversion Prediction Using Multi-task Conditional Attention Networks to Support the Creation of Effective Ad Creatives** [📄] [📄] [📄]
Shunsuke Kitada, Hitoshi Iyatomi, Yoshifumi Seki
ACM SIGKDD International Conference on Knowledge Discovery & Data Mining (KDD), Anchorage, USA [KDD'19]

- [IC.3] **Text Classification through Glyph-aware Disentangled Character Embedding and Semantic Sub-character Augmentation** [🔗] [📄] [🌐]
Takumi Aoki, [Shunsuke Kitada](#), Iyatomi Hitoshi
Student Research Workshop, ACL-IJCNLP (Virtual) [SRW@ACL-IJCNLP'20]
- [IC.2] **AraDIC: Arabic Document Classification Using Image-Based Character Embeddings and Class-Balanced Loss** [🔗] [📄] [🌐]
Mahmoud Daif, [Shunsuke Kitada](#), Hitoshi Iyatomi
Student Research Workshop, ACL (Virtual) [SRW@ACL'20]
- [IC.1] **End-to-End Text Classification via Image-based Embedding using Character-level Networks** [🔗] [📄]
[Shunsuke Kitada](#), Ryunosuke Kotani, Hitoshi Iyatomi
IEEE Applied Imagery Pattern Recognition Workshop [AIPR'18]
- [DC.2] **Relation Loss: Learning to Related Attention Mechanisms and Gradients for Improving Interpretability** [🔗]
[Shunsuke Kitada](#), Hitoshi Iyatomi
14th Symposium of NLP Young Association (YANS), Hokkaido, Japan [YANS'19]
- [DC.1] **Body Hair Augmentation for Robust Skin Tumor Diagnosis Support** [🔗]
[Shunsuke Kitada](#), Hitoshi Iyatomi
81st Annual Meeting of The Information Processing Society of Japan (IPSJ), Fukuoka, Japan [IPSJ'19]

Experience

Aug. 2021 Sep. 2021	NTT Human Informatics Laboratories Research Intern [🌐] <i>Advisor: Dr. Kyosuke Nishida</i> Worked on establishing a new pre-training method for document image understanding.	Kanagawa, Japan
Present Jul. 2021	CyberAgent Inc. Collaborative Researcher [🌐] <i>Advisors: Dr. Mayu Otani, Dr. Naoto Inoue, Mr. Yuki Iwazaki</i> Working on establishing multi-modal deep learning model for ad creative understanding in a special research position for doctoral students adopted as JSPS Research fellow (DC1, DC2, PD).	Tokyo, Japan
May. 2019	<i>Research Intern Advisor: Mr. Yuki Iwazaki</i> Investigated fundamental research to evaluate and analyze ad creatives and its landing pages, presented at academic symposium in Japan.	
Mar. 2021 Feb. 2021	AppBrew Inc. AI x Ad Consultant [🌐] > Surveyed methods for automatically creating/generating ad creatives. > Advised on the improvement of advertising creative creation methods. > Wrote an article about AI x Adtech in Japanese:	Tokyo, Japan
Aug. 2020 Jul. 2020	Tokyo Women's Medical University Part-time Job [🌐] <i>Advisors: Prof. Masaru Tanaka, Dr. Noriko Umegaki, Prof. Hitoshi Iyatomi</i> Assisted in collecting skin images for the construction of an automated diagnostic system.	Tokyo, Japan
Jul. 2019 Jun. 2019	M3 Inc. Software Engineer Intern [🌐] > Worked on quantifying and visualizing doctors' interest from browsing history. > Built a system for recommending articles for doctors based on the analysis from scratch	Tokyo, Japan
Aug. 2018 Jun. 2018	Piascore Inc. Deep Learning Advisor [🌐] Advised how to solve practical problems of existing services that use machine learning algorithms and deep learning models, showing examples of the kind of problems recent deep learning models are capable of solving.	Tokyo, Japan
Present Aug. 2018	Gunosy Inc. Research Intern [🌐] <i>Advisor: Dr. Yoshifumi Seki</i> Worked on fundamental research to evaluate and analyze ad creatives, resulting in a presentation at Applied Science track of KDD, a top data mining conference.	Tokyo, Japan
Jul. 2018 Mar. 2017	<i>Software Engineer Intern</i> Worked on (1) improving the user experience and participated in improving the logic of the article distribution, and (2) analyzing log data through visualization of multiple KPIs and contributing to the growth of the service.	

Mar. 2018	FarberCompany Inc. Software Engineer Intern [🌐] Implemented machine learning models that accurately capture semantic features of a document in a document similarity (Engineer internship 3days / ¥100,000).	Tokyo, Japan
Apr. 2021 Jan. 2016	NVIDIA Japan Teaching Assistant for Deep Learning Hands-On Training Lab [🌐] Assisted in several workshops in Tokyo relating to deep learning and CUDA: > GTC Japan 2016 DLI in Hilton Tokyo Odaiba > NVIDIA Deep Learning Institute 2017 in Tokyo Midtown and Takada-no-baba > GTC Japan 2017 DLI in Hilton Tokyo Odaiba > NVIDIA GTC 2020 DLI in Online > NVIDIA GTC 2021 DLI in Online	Tokyo, Japan
Jun. 2018 Fab. 2016	VALUENEX Japan Inc. Part-time job [🌐] Worked on dealing with large-scale nonstructural patent information in various forms, e.g., pre-processing, crawling, scraping, and analyzing these data.	Tokyo, Japan
Aug. 2015	Works Applications Co., Ltd. Software Intern [🌐] Planned and implemented enterprise resource planning (ERP) packages.	Tokyo, Japan

Talks

“My experience about JSPS Research Fellowship”

- > Seminar on applying for JSPS Research Fellowship (DC1 and DC2) 2022 [🌐] [📺] April 2022 (Remote)

“Recent Issues in Intelligent Robotics, Machine Learning, and Distributed System”

- > The 1st Univ. Carthage – Hosei International Joint Webinar with honorable support by the Embassy of the Republic of Tunisia in Japan [📺] March 2021 (Remote)

“The Present and Future of Machine Learning for Ad Creatives”

- > 34th Annual Conference of the Japanese Society for Artificial Intelligence, 2020 [🌐] [📺] June 2020 (Remote)

“Research and Development Internship at a Web Service Provider [Gunosy Inc.]”

- > 15th Text Analytics Symposium, 2019 [🌐] [📺] September 2019 (Tokyo, Japan)

Awards and Grants

Hosei University Research Grant for Doctoral Course Adopters, 2020-2021 | 480,000 JPY/year [🌐] This grant is intended to foster researchers with advanced research skills and rich academic knowledge within the university.

Grant-in-Aid for Japan Society for the Promotion of Science (JSPS) Fellows, 2021-2023 | 1,000,000 JPY/year [🌐]

Japan Society for the Promotion of Science (JSPS) Research Fellowship for Young Scientists (DC2), 2021-2023 | 200,000 JPY / month [🌐] This fellowship is the most famous in Japan, with only the top 20% of PhD students in the country selected.

JASSO Scholarship for Top 10% Excellent Master Students from Japan Student Services Organization, 2020 | 2,112,000 JPY [🌐] This is a system in which students who have received a scholarship loan at a graduate school and who have been recognized by the JASSO as having made particularly outstanding achievements during the period of the loan are exempted from paying back the full amount or half of that scholarship.

Honorable Mention in Young Researcher Association for NLP Studies (YANS), 2019 [🌐]

CEO Special Award in the second half of FY2019 at Gunosy Inc. [🌐]

Hosei University 100th year anniversary scholarship for master students, 2019 | 200,000 JPY / year [🌐]

Student Honorable Mention in Information Processing Society of Japan (IPSJ), 2019 [🌐]