Asahi Ushio

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RESEARCH AREA

Machine Learning, Natural Language Processing, Language Understanding, Information Retrieval

EDUCATION

10/2020 - **Ph.D.** in Computer Science & Information
        Cardiff University, UK
           Advisor: Jose Camacho Collados, Steven Schockaert
           Area of study: Language model understanding, Relational knowledge representation.

04/2016 - 03/2018 **M.E.** in Electrical Engineerings
        Keio University, Kanagawa, Japan
           Advisor: Masahiro Yukawa
           Thesis: Projection-based Regularized Dual Averaging for Stochastic Optimization
           Area of study: Stochastic optimization, Online learning, Sparsity-aware filtering

04/2011 - 03/2016 **B.E.** in Electrical Engineerings
        Keio University, Kanagawa, Japan
        Thesis:
        (1) An Online Kernel Method Based on Orthogonal Projection Reflecting Multiple Tasks
           Advisor: Masahiro Yukawa
           Area of study: Multi-task learning, Adaptive learning, Kernel method
        (2) Stock Return Prediction by Stochastic Model with Variance Risk Premium
           Advisor: Teruo Nakatsuma
           Area of study: Bayesian forecasting, Stochastic volatility, MCMC

EXPERIENCE

09/2021 - 12/2021 RESEARCH SCIENTIST (Internship)
        SNAP, L.A, U.S.
        · Advisor: Francesco Barbieri, Vitor Silva Sousa and Leonardo Neves
        · Topic: Temporal-aware named-entity recognition in noisy SNS data.

06/2021 - 09/2021 APPLIED RESEARCH SCIENTIST (Internship)
        Amazon, Tokyo, Japan
        · Advisor: Danushka Bollegala
        · Topic: Research on multilingual counterfactual sentence detection.

02/2018 - 10/2020 MACHINE LEARNING SCIENTIST (Full-time)
        Cogent Labs, Tokyo, Japan
        · Research on natural language understanding, information retrieval, generative models
        · Develop product-level APIs for AI services, maintain relational database, and make efficient
         data pipeline
        · Provide consultation for AI solutions

PUBLICATIONS

Refereed Conference Article

Jose Camacho-Collados, Kiamehr Rezaee, Talayeh Riahi, <u>Asahi Ushio</u>, Daniel Loureiro, Dimosthenis Antypas, Joanne Boisson, Luis Espinosa-Anke, Fangyu Liu, Eugenio Martinez-Camara, Gonzalo Medina, Thomas Buhrmann, Leonardo Neves, Francesco Barbieri, "TweetNLP: Cutting-Edge Natural Language Processing for Social Media," in Proceedings of EMNLP: System Demonstrations, Decembert 2022.

<u>Asahi Ushio</u>, Leonardo Neves, Vitor Silva, Francesco Barbieri, and Jose Camacho-Collodos, "Named Entity Recognition in Twitter: A Dataset and Analysis on Short-Term Temporal Shifts," in Proceedings of AACL main conference, November 2022.

Dimosthenis Antypas*, <u>Asahi Ushio</u>*, Leonardo Neves, Vitor Silva, Francesco Barbieri, and Jose Camacho-Collodos, "Twitter Topic Classification," in Proceedings of COLING main conference, October 2022 (*Equal contribution).

<u>Asahi Ushio</u>, Steven Schockaert, and Jose Camacho-Collodos, "Distilling Relation Embeddings from Pre-trained Language Models," in Proceedings of EMNLP main conference, November 2021.

<u>Asahi Ushio</u>, Federico Liberatore, and Jose Camacho-Collodos, "Back to the Basics: A Quantitative Analysis of Statistical and Graph-Based Term Weighting Schemes for Keyword Extraction," in Proceedings of EMNLP main conference, November 2021.

<u>Asahi Ushio</u>, Luis Espinosa-Anke, Steven Schockaert, and Jose Camacho-Collodos, "BERT is to NLP what AlexNet is to CV: Can Pre-Trained Language Models Identify Analogies?," in Proceedings of ACL main conference, August 2021.

<u>Asahi Ushio</u> and Jose Camacho-Collodos, "T-NER: An All-Round Python Library for Transformer-based Named Entity Recognition," in Proceedings of EACL: System Demonstrations, April 2021.

<u>Asahi Ushio</u>, Masahiro Yukawa, "Projection-based Dual Averaging for Stochastic Sparse Optimization," in Proceedings of 42nd IEEE ICASSP, pp.2307–2311, New Orleans: USA, March 2017.

Refereed Journal Articles

<u>Asahi Ushio</u> and Masahiro Yukawa, "Projection-based Regularized Dual Averaging for Stochastic Optimization," IEEE Trans. Signal Processing, vol.67, no.10, pp.2720–2733, May 2019.

Ken McAlinn, <u>Asahi Ushio</u>, and Teruo Nakatsuma, "Volatility Forecasts Using Nonlinear Leverage Effects," Journal of Forecasting, 2019.

Miscellaneous

Aleksandra Edwards, <u>Asahi Ushio</u>, Jose Camacho-Collados, HÃl'lÃÍne de Ribaupierre, Alun Preece, "Guiding Generative Language Models for Data Augmentation in Few-Shot Text Classification," arXiv: 2111.09064, Nov 2011

Max F. Frenzel, Bogdan Teleaga, <u>Asahi Ushio</u>, "Latent Space Cartography: Generalised Metric-Inspired Measures and Measure-Based Transformations for Generative Models," arXiv:1902.02113, Feb 2019

Yoshifumi Seki, <u>Asahi Ushio</u>, Takeshi Yoneda, Yutaka Matsuo, "Analyzing User Behavior in News App towards Detecting Click-Bait News," IEICE, Text Analysis symposium, Sep 2017 (Japanese only)

<u>Asahi Ushio</u>, Yoshinobu Takahashi, Seiya Satoh, Hiroshi Yamakawa, "A Research for Efficient Equivalence Structure Search by Local Distribution of Variables," IEICE, Information-Based Induction Sciences and Machine Learning, Nov 2016 (Japanese only)

Asahi Ushio, Ken McAlinn, Teruo Nakatsuma, "Nonlinear Leverage Effects in Asset Returns: Evidence from the U.S. and Japanese Stock Markets," 9th International Conference on Computational and Financial Econometrics, Dec, 2015.

Asahi Ushio, Masahiro Yukawa, "Multi-task Learning with Operator-valued Reproducing Kernels," IEICE, Signal Processing symposium, Nov, 2015.

Asahi Ushio, Ken McAlinn, Teruo Nakatsuma, "Estimate the Leverage Function of Stochastic Volatility Model by Particle Learning," The Japanese Association of Financial Econometrics and Engineering, JAFEE, 42th, Jan, 2014.

SCHOLARSHIP

10/2020 - 09/2023 PhD Scholarship 2020
School of Computer Science & Informatics, Cardiff University
£15,285 per year & the international student tuition fees
04/2016 - 03/2018 Postgrad Scholarship
Fuji Seal Packaging Education and Scholarship Foundation
$ 1,200 per year

ADDITIONAL SKILLS

LANGUAGE: Japanese, English, Chinese (Conversational)

SOFTWARE: Python (tensorflow, pytorch, sklearn), PostgresSQL, Docker, Flutter for web, GCP, AWS
GitHub https://github.com/asahi417

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