MASAKI KOBAYASHI

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Tsukuba, Japan.   Last Update: March 10, 2021

INTRODUCTION

I am a doctoral student at the Graduate School of Library, Information and Media Studies, University of Tsukuba. My current research interest is Human-Machine collaboration in Crowdsourcing for efficient microtask processing. I am currently working to develop task assignment algorithms for Human and AI workers that satisfy the data quality requirement given by requesters.

I am also interested in developing web applications and, I am fluent in JavaScript, TypeScript, Ruby, and Python. I have experienced as a part-time engineer and an intern in more than ten companies and research institutions. My major past works are ChainerUI and Crowd4U.

EDUCATION

University of Tsukuba, Japan.   *April 2019 - Present*
Ph.D Student,
Graduate School of Library, Information and Media Studies.
Advisors: Atsuyuki Morishima, Kei Wakabayashi and Hiromi Morita.

University of Tsukuba, Japan.   *April 2017 - March 2019*
Master of Informatics,
Graduate School of Library, Information and Media Studies.
Advisors: Atsuyuki Morishima and Hiromi Morita.

University of Tsukuba, Japan.   *April 2013 - March 2017*
Bachelor of Library and Information Science,
College of Knowledge and Library Sciences, School of Informatics.
Advisor: Atsuyuki Morishima.

PUBLICATIONS

Refereed Journal Articles

1. Masaki Kobayashi, Hiromi Morita, Masaki Matsubara, Nobuyuki Shimizu, and Atsuyuki Morishima. Empirical Study on Effects of Self-Correction in Crowdsourced Image Classification Tasks. Human Computation Journal (8:1). 2021, p. 1-24.

Refereed Conference Proceedings

1. Masaki Kobayashi, Hiromi Morita, Masaki Matsubara, Nobuyuki Shimizu, and Atsuyuki Morishima. An Empirical Study on Short- and Long-Term Effects of Self-Correction in Crowdsourced Microtasks. Proceedings of the Sixth AAAI Conference on Human Computation and Crowdsourcing (HCOMP 2018). Zurich, Switzerland, 2018, p. 79-87.

Refereed Domestic Conference (Japanese)

1. 小林 正樹, 若林 啓, 森嶋 厚行. 人間 +AI クラウドにおけるマイクロタスク処理の効率化. 第 12 回 Web とデータベースに関するフォーラム (WebDB Forum 2019). 東京都新宿区, 2019, p. 5-8.

Refereed Posters and Workshops

1. Masaki Kobayashi, Kei Wakabayashi, and Atsuyuki Morishima. Quality-Aware Dynamic Task Assignment in Human+AI Crowd. Companion Proceedings of the Web Conference 2020 (WWW '20). Taipei, Taiwan, 2020, p. 118–119. [PDF]

2. Munenari Inoguchi, Keiko Tamura, Kousuke Uo, and Masaki Kobayashi. Validation of CyborgCrowd Implementation Possibility for Situation Awareness in Urgent Disaster Response -Case Study of International Disaster Response in 2019-. 2020 IEEE International Conference on Big Data (IEEE HMData 2020). Virtual Conference, 2020.

3. Akiko Aizawa, Frederic Bergeron, Junjie Chen, Fei Cheng, Katsuhiko Hayashi, Kentaro Inui, Hiroyoshi Ito, Daisuke Kawahara, Masaru Kitsuregawa, Hirokazu Kiyomaru, Masaki Kobayashi, Takashi Kodama, Sadao Kurohashi, Qianying Liu, Masaki Matsubara, Yusuke Miyao, Atsuyuki Morishima, Yugo Murawaki, Kazumasa Omura, Haiyue Song, Eiichiro Sumita, Shinji Suzuki, Ribeka Tanaka, Yu Tanaka, Masashi Toyoda, Nobuhiro Ueda, Honai Ueoka, Masao Utiyama and Ying Zhong. A System for Worldwide COVID-19 Information Aggregation. Proceedings of the 1st Workshop on NLP for COVID-19 (Part 2) at EMNLP 2020. Virtual Conference, 2020.

4. Yu Yamashita, Masaki Kobayashi, Kei Wakabayashi, and Atsuyuki Morishima. Dynamic Worker-Task Assignment for High-Quality Task Results with ML Workers. The eighth AAAI Conference on Human Computation and Crowdsourcing (HCOMP2020). Virtual Conference, 2020, 3 pages.

5. Kousuke Uo, Masaki Kobayashi, Masaki Matsubara, Yukino Baba, and Atsuyuki Morishima:. Active Learning Strategies for Hierarchical Labeling Microtasks. The 3rd IEEE Workshop on Human-in-the-loop Methods and Human Machine Collaboration in BigData (IEEE HMData 2019). Los Angeles, 2019, p. 4647-4650.

6. Masafumi Hayashi, Masaki Kobayashi, Masaki Matsubara, Toshiyuki Amagasa, and Atsuyuki Morishima. Incentive Design for Crowdsourced Development of Selective AI for Human and Machine Data Processing: A Case Study. The 3rd IEEE Workshop on Human-in-the-loop Methods and Human Machine Collaboration in BigData (IEEE HMData 2019). Los Angeles, 2019, p. 4596-4601.

7. Masaki Matsubara, Masaki Kobayashi, Atsuyuki Morishima. A Learning Effect by Presenting Machine Prediction as a Reference Answer in Self-correction. The Second IEEE Workshop on Human-in-the-loop Methods and Human Machine Collaboration in BigData (IEEE HM-Data2018). Seattle, 2018, p. 3522-3528.

Non-refereed Domestic Conference (Japanese)

1. 小林 正樹, 若林 啓, 森嶋 厚行. 人間 +AI クラウドの相互作用によるタスク結果品質の管理手法. 第 13 回データ工学と情報マネジメントに関するフォーラム (DEIM2021). Virtual Conference, 2021, 8 pages.

2. 小林 正樹, 若林 啓, 森嶋 厚行. タスク結果品質を考慮した人間 +AI クラウドへのマイクロタスク割り当て. 第 12 回データ工学と情報マネジメントに関するフォーラム (DEIM2020). Virtual Conference, 2020, 8 pages.

3. 山下 裕, 小林 正樹, 若林 啓, 森嶋 厚行. クラウドソーシングにおける AI を利用したタスク削減手法. 第 12 回データ工学と情報マネジメントに関するフォーラム (DEIM2020). Virtual Conference, 2020, 7 pages.

4. 鵜尾 厚佑, 小林 正樹, 松原 正樹, 馬場 雪乃, 森嶋 厚行. 階層型のラベル付けマイクロタスクにおける能動学習戦略の比較. 第 12 回データ工学と情報マネジメントに関するフォーラム (DEIM2020). Virtual Conference, 2020, 6 pages.

5. 小林 正樹, 森田 ひろみ, 松原 正樹, 清水 伸幸, 森嶋 厚行. マイクロタスクでの自己補正におけるワーカの回答パターン分析. 第 11 回データ工学と情報マネジメントに関するフォーラム (DEIM2019). 長崎県, 2019, 7 pages.

6. 松原 正樹, 小林 正樹, 森嶋 厚行. 機械学習の分類予測に基づく参考回答提示によるクラウドワーカの学習効果. 第 11 回データ工学と情報マネジメントに関するフォーラム (DEIM2019). 長崎県, 2019, 7 pages.

7. 小林 正樹, 森田 ひろみ, 松原 正樹, 清水 伸幸, 森嶋 厚行. クラウドワーカの品質改善における他者回答提示の短期的・長期的効果. 第 10 回データ工学と情報マネジメントに関するフォーラム (DEIM2018). 福井県, 2018, 8 pages.

8. 小林 正樹, 清水 伸幸, 森嶋 厚行. ワーカの成長を考慮した自己補正マイクロタスク割当て手法. 第 9 回データ工学と情報マネジメントに関するフォーラム (DEIM2017). 岐阜県, 2017, 6 pages.

9. 小林 正樹, 伏見 卓恭, 佐藤 哲司. 購買履歴を用いたユーザ行動モデルの推定. 第 8 回データ工学と情報マネジメントに関するフォーラム (DEIM2016). 福岡, 2016, 5 pages.

10. 小林 正樹, 伏見 卓恭, 佐藤 哲司. 調理手順の頻出パターンに基づく入力支援手法の提案. 信学技報 (データ工学研究会, データ工学と食メディア) (230:115). 2015, p. 53-57.

WORK EXPERIENCE

Research Assistant University of Tsukuba, Japan. *April 2019 - Present*

As a Member of the JST CREST CyborgCrowd Project. It is a Japanese funded research project to integrate crowdsourcing and AI technologies. I am a core member of Crowd4U: public crowdsourcing platform.

Engineer (Part-time) Preferred Networks, Inc. *October 2017 - Present*

As a Member of the ChainerUI Team. I developed ChainerUI. It is a visualization and management tool for Chainer.

Engineer (Part-time) Bit Journey, Inc. *October 2017 - May 2020*

Teaching Assistant University of Tsukuba, Japan. *April 2018 - December 2019*

Database Technology Class and Introduction to Data Engineering Class

Intern Arm Treasure Data inc. *August 2018 - September 2018*

Intern Preferred Networks, Inc. *August 2017 - September 2017*

Engineer (Part-time) LINE Corporation. *April 2016*

Intern CyberAgent inc. *September 2015*

Intern National Institute of Informatics, Japan. *August 2015*

Intern pixiv inc. *March 2015*

Engineer (Part-time) 3-shake inc. *July 2016 - August 2017*

Engineer (Part-time) BearTail inc. *May 2014 - March 2015*

Engineer (Part-time) Has-key, inc. *August 2013 - March 2017*

PATENTS

1. 森嶋 厚行, 若林 啓, 小林 正樹. 割当装置及び割当方法. 特願 2019-035829.

RESEARCH GRANTS

AIP Challenge Program JST AIP Network Lab, Japan. *August 2020 - March 2021*

1,000,000 JPY

AIP Challenge Program JST AIP Network Lab, Japan. *August 2019 - March 2020*

1,000,000 JPY

TEACHING EXPERIENCE

- Teaching Assistant, Database Technology, University of Tsukuba. October 2018 - December 2018, October 2019 - December 2019, October 2020 - December 2020.

- Teaching Assistant, Information Media Laboratory, University of Tsukuba. April 2020 - July 2020.

- Teaching Assistant, Introduction to Data Engineering, University of Tsukuba. April 2018 - July 2018, April 2019 - July 2019, April 2020 - July 2020.

AWARDS

- Student Presentation Award in Forum on Data Engineering and Information Management (DEIM) 2021, Japan.

- Online Presentation Award in Forum on Data Engineering and Information Management (DEIM) 2020, Japan.

- Presentation Award in WebDB Forum 2019 (LIFULL award and FRONTEO award), 2019.

- Repayment Exemption for Students with Excellent Grades, JASSO Type 1 scholarship, 1,200,000 JPY, 2019.

- Provost's Award, Graduate School of Library, Information and Media Studies, University of Tsukuba, Japan, 2019.

- Student Presentation Award in Forum on Data Engineering and Information Management (DEIM) 2017, Japan.

- 3rd prize in Git Source Code Contest 2016, HASIGO Inc. Title: Developing a WebApp for Checking Graduation Requirements from School Records

- Platinum Award, ThinkQuest JAPAN 2013. Title: Website to Think about 3.11 Earthquake

- Grand Prize in ICT Challenge+R 2012, Ritsumeikan University, Japan. Title: Book Retrieval System using Google Street View of Original Panorama Images

LINKS

- https://www.makky.io

- https://github.com/makky3939

- https://scholar.google.com/citations?user=6jE4oTYAAAAJ

- https://speakerdeck.com/makky