Kai Hui
Machine Learning Scientist
Amazon Alexa AI Search
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Research Profiles: Google Scholar|DBLP|Semantic Scholar|Research Gate Profile

(a) Education & Training

Saarland University, Saarbruecken, Germany	Doctor of Engineering (Dr. -Ing), 2017
University of Chinese Academy of Sciences, Beijing, China	Master of Engineering, 2013
Beijing Jiaotong University, Beijing, China	Bachelor of Management Science, 2010

(b) Experiences

2019.04 – present	Machine Learning Scientist, Amazon Alexa AI Search
2017.11 – 2019.03	Data Scientist, Cluster of Excellence for Deep Learning in SAP SE
2014.10 – 2015.02	Teaching Assistant, Graduate core course "Information Retrieval and Data Mining"
2013.04 – 2017.12	Doctoral Researcher, Max Planck Institute for Informatics
2012.01 – 2012.07	Research intern, Microsoft Research Asia

(c) Professional Services

1. Program Commit Member in ACM SIGIR Conference on Research Development in Information Retrieval 2018, 2019, 2020, 2021
2. Program Commit Member in Annual Meeting of the Association for Computational Linguistics (ACL) 2019, 2020, 2021
3. Program Commit Member in Conference on Empirical Methods in Natural Language Processing (EMNLP) 2019, 2020
4. Program Commit Member in Conference on Artificial Intelligence (AAAI) 2020, 2021
5. Program Commit Member in ACM KDD '21 Applied Data Science Track: Proceedings of the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining 2021
6. Program Commit Member in ACM international conference on Information and knowledge management (CIKM) 2020
7. Program Commit Member in ACM international Conference on Web Search and Data Mining (WSDM) 2021
8. Program Commit Member in Annual Conference of the North American Chapter of the Association for Computational Linguistics (NAACL-HLT) 2021
9. Program Commit Member in ACM SIGIR International Conference on Theory of Information Retrieval (ICTIR) 2020
10. Program Commit Member in Conference of the Asia-Pacific Chapter of the Association for Computational Linguistics and the International Joint Conference on Natural Language Processing (AACL-IJCNLP) 2020
11. Program Commit Member in Conference of the European Chapter of the Association for Computational Linguistics (EACL) 2021
12. Journal reviewer for Transactions on Information Systems (TOIS), The Journal of the Association for Information Science and Technology (JASIST)
13. Editor board member for Information Processing & Management (IP&M)

(d) Publications

1. Z. Zheng, **Hui, Kai**, B. He, X. Han, L. Sun, and A. Yates, "BERT-QE: Contextualized query expansion for document re-ranking," in *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing: Findings*, (Online), pp. 4718–4728, Association for Computational Linguistics, Nov. 2020.
2. X. Chen, B. He, **Hui, Kai**, L. Sun, and Y. Sun, "Simplified TinyBERT: Knowledge distillation for document retrieval," in *European Conference on Information Retrieval*, ECIR 2021 (To Appear), Springer.
3. **Hui, Kai**, A. Yates, K. Berberich, and G. de Melo, "PACRR: A position-aware neural ir model for relevance matching," in *Proceedings of the 2017 Conference on Empirical Methods in Natural Language Processing*, EMNLP '17, (Copenhagen, Denmark), Association for Computational Linguistics, September 2017.
4. **Hui, Kai**, A. Yates, K. Berberich, and G. de Melo, "Co-PACRR: A context-aware neural ir model for ad-hoc retrieval," in *Proceedings of the 11th ACM International Conference on Web Search and Data Mining*, WSDM '18, ACM, 2018.
5. **Hui, Kai**, A. Yates, K. Berberich, and G. de Melo, "Position-aware representations for relevance matching in neural information retrieval," in *Proceedings of the 26th International Conference on World Wide Web Companion*, WWW '17, pp. 799–800, International World Wide Web Conferences Steering Committee, 2017.
6. S. MacAvaney, **Hui, Kai**, and A. Yates, "An approach for weakly-supervised deep information retrieval," in *Neu-IR'17: The SIGIR 2017 Workshop on Neural Information Retrieval, 2017.*, 2017.
7. S. MacAvaney, A. Yates, **Hui, Kai**, and O. Frieder, "Content-based weak supervision for ad-hoc re-ranking," in *Proceedings of the 42nd International ACM SIGIR Conference on Research and Development in Information Retrieval*, SIGIR'19, (New York, NY, USA), p. 993–996, Association for Computing Machinery, 2019.
8. **Hui, Kai** and K. Berberich, "Transitivity, time consumption, and quality of preference judgments in crowdsourcing," in *The 39th European Conference on Information Retrieval*, ECIR '17, pp. 239–251, Springer International Publishing, 2017.
9. **Hui, Kai** and K. Berberich, "Low-cost preference judgment via ties," in *The 39th European Conference on Information Retrieval*, ECIR '17, pp. 626–632, Springer International Publishing, 2017.
10. **Hui, Kai** and K. Berberich, "Merge-tie-judge: Low-cost preference judgments with ties," *Proceedings of the ACM SIGIR International Conference on Theory of Information Retrieval*, 2017.
11. C. Jin, B. He, **Hui, Kai**, and L. Sun, "Tdnn: a two-stage deep neural network for prompt-independent automated essay scoring," in *Proceedings of the 56th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*, pp. 1088–1097, 2018.
12. C. Li, Y. Sun, B. He, L. Wang, **Hui, Kai**, A. Yates, L. Sun, and J. Xu, "Nprf: A neural pseudo relevance feedback framework for ad-hoc information retrieval," in *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing*, pp. 4482–4491, 2018.
13. **Hui, Kai**, B. Gao, B. He, and T.-j. Luo, "Sponsored search ad selection by keyword structure analysis," in *European Conference on Information Retrieval*, pp. 230–241, Springer, 2013.
14. **Hui, Kai**, B. He, T. Luo, and B. Wang, "Relevance weighting using within-document term

statistics," in *Proceedings of the 20th ACM international conference on Information and knowledge management*, pp. 99–104, 2011.
15. **Hui, Kai**, B. He, T. Luo, and B. Wang, "A comparative study of pseudo relevance feedback for ad-hoc retrieval," in *Conference on the Theory of Information Retrieval*, pp. 318–322, Springer, 2011.
16. S. MacAvaney, A. Yates, A. Cohan, L. Soldaini, **Hui, Kai**, N. Goharian, and O. Frieder, "Characterizing question facets for complex answer retrieval," in *The 41st International ACM SIGIR Conference on Research & Development in Information Retrieval*, pp. 1205–1208, 2018.
17. S. MacAvaney, A. Yates, A. Cohan, L. Soldaini, **Hui, Kai**, N. Goharian, and O. Frieder, "Overcoming low-utility facets for complex answer retrieval," *Information Retrieval Journal*, vol. 22, no. 3-4, pp. 395–418, 2019.
18. **Hui, Kai** and K. Berberich, "Cluster hypothesis in low-cost ir evaluation with different document representations," in *Proceedings of the 25th International Conference Companion on World Wide Web*, WWW '16, pp. 47–48, International World Wide Web Conferences Steering Committee, 2016.
19. **Hui, Kai** and K. Berberich, "Selective labeling and incomplete label mitigation for low-cost evaluation," in *International Symposium on String Processing and Information Retrieval*, SPIRE '15, pp. 137–148, Springer International Publishing, 2015.
20. **Hui, Kai**, K. Berberich, and I. Mele, "Dealing with incomplete judgments in cascade measures," in *Proceedings of the ACM SIGIR International Conference on Theory of Information Retrieval*, pp. 83–90, 2017.
21. Y. Ran, B. He, **Hui, Kai**, J. Xu, and L. Sun, "A document-based neural relevance model for effective clinical decision support," in *2017 IEEE International Conference on Bioinformatics and Biomedicine (BIBM)*, pp. 798–804, IEEE, 2017.
22. Y. Ran, B. He, **Hui, Kai**, J. Xu, and L. Sun, "Neural relevance model using similarities with elite documents for effective clinical decision support," *International Journal of Data Mining and Bioinformatics*, vol. 20, no. 2, pp. 91–108, 2018.