Jing Wang

CONTACT INFORMATION

Amazon
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Website

EMPLOYMENTS

Applied Scientist, Demand Forecasting Team — Apr. 2021-present
Amazon

Applied Scientist, Amazon AI Labs — Sept. 2019-Apr. 2021
Amazon Web Services

ACADEMIC EXPERIENCE

Postdoctoral Fellow, The Mount Sinai Medical Center — Apr. 2019-Jun. 2019

Postdoctoral Associate, Cornell Medical College — Apr. 2018-Apr. 2019

Postdoctoral Scholar, Rutgers University — Aug. 2015-Apr. 2018

Ph.D., National University of Singapore — Sept. 2013-May 2015

Ph.D., Hefei University of Technology — Sept. 2012-Jun. 2015

LEADING PROJECTS

1. Deep Learning based Forecasting System for Emerging Market

   I lead the project on launching the forecasting service for emerging markets. I made the launch plan with product manager, worked on model design, and oversaw the progress throughout. A new production architecture is proposed, with forecasting accuracy improved by 21.25%. Report: Transfer Learning for Emerging Market India, 2022

2. Time Series Demand Forecasting with Natural Language Processing

   I lead the project on proposing an end-to-end forecasting architecture with NLP. The project lasts three months and achieves 5.7% performance improvement compared with the best production model. Report: Deep Time Series Forecasting with Text Features, 2022. Textual Knowledge Informed Deep Neural Networks for ASIN Forecasting. *Consumer Science Summit*, 2022.

3. Bandit Algorithms to Solve Out of Stocks

   I lead the project to bring products back to stock for the retail business of Amazon using reinforcement learning. Report: Learning from Logged Bandit Feedback with Importance Sampling, 2022

4. Reading Comprehension with Active Learning. I lead the project to reduce the cost of data annotation by proposing an end-to-end reading comprehension model with active learning.

5. Semantic Search for Embedding-based Large-scale Query-Document Retrieval. I lead the project to improve the performance of the inference pipeline with customer behavior information.

6. User Preference based Temporal Recommendation System. I lead the science exploration to apply contextual bandit in the recommendation system.

REFEREED PUBLICATIONS

1. **Jing Wang**, Jie Shen, Xiaofei Ma, Andrew Arnold. Uncertainty-Based Active Learning for Reading Comprehension. to appear in *Transactions on Machine Learning Research*, 2022.
2. **Jing Wang**, Jie Shen. Fast Spectral Analysis in Approximate Nearest Neighbor Search. *Machine Learning*, pages 1–26, 2022.
3. Jie Shen, Cui Nan, **Jing Wang**. Metric-Fair Active Learning. *The 39th International Conference on Machine Learning (ICML)*, 2022.
4. **Jing Wang**, Jie Shen, Xiaofei Ma, Andrew Arnold. Uncertainty-based Adaptive learning For Reading Comprehension. *In Submission.*
5. Extraction of radiographic findings from unstructured thoracoabdominal computed tomography reports using convolutional NLP, *PLOS ONE*, 2020
6. Determinants of In-Hospital Mortality after Percutaneous Coronary Intervention: A Machine Learning Approach. *Journal of the American Heart Association*, 2019.
7. Deep Learning Based Automatic Segmentation of Cardiac Computed Tomography. *American College of Cardiology (ACC)*, 2019.
8. Prediction of Culprit Lesions in Patients with Acute Coronary Syndrome: Analysis from the ICONIC Study. *Transcatheter Cardiovascular Therapeutics Conference (TCT)*, 2018.
9. Clinical Predictors of Obstructive Coronary Artery Disease with Suspected Coronary Artery Disease. *Transcatheter Cardiovascular Therapeutics Conference (TCT)*, 2018.
10. Machine learning in cardiac CT: Basic concepts and contemporary data. *Journal of Cardiovascular Computed Tomography*, 12(3): 192–201, 2018.
11. **Jing Wang**, Jie Shen, Ping Li. Provable Variable Selection for Streaming Features. *The 35th International Conference on Machine Learning (ICML)*, 2018.
12. Xuegang Hu, Peng Zhou, Peipei Li, **Jing Wang**, Xindong Wu. A survey on online feature selection with streaming features. *Frontiers of Computer Science*, pages 479–493, 2018.
13. **Jing Wang**, Jie Shen, Ping Li. Object Proposal with Kernelized Partial Ranking. *Pattern Recognition*, 69(1): 299–309, 2017.
14. **Jing Wang**, Meng Wang, Xuegang Hu, Shuicheng Yan. Visual Data Denoising with a Unified Schatten-p norm and ℓ_q norm Regularized Principal Component Pursuit. *Pattern Recognition*, 48(10): 3135–3144, 2015.
15. **Jing Wang**, Jie Shen, Ping Li, Huan Xu. Online Matrix Completion for Signed Link Prediction. *International Conference on Web Search and Data Mining (WSDM)*, 2017.
16. **Jing Wang**, Meng Wang, Peipei Li, Luoqi Liu, Zhongqiu Zhao, Xuegang Hu, Xindong Wu. Online Feature Selection with Group Structure Analysis. *IEEE Transactions on Knowledge and Data Engineering*, 27(11): 3029–3041, 2015.
17. **Jing Wang**, Meng Wang, Peipei Li, Shuicheng Yan, Xuegang Hu. Robust Face Recognition via Adaptive Sparse Representation. *IEEE Transactions on Systems, Man, and Cybernetics, Part B (Cybernetics)*, 44(12): 2368–2378, 2014.
18. **Jing Wang**, Zhongqiu Zhao, Xuegang Hu, Yiuming Cheung, Meng Wang, Xindong Wu. Online Group Feature Selection. *The 22rd International Joint Conference on Artificial Intelligence (IJCAI)*, 2013.

19. **Jing Wang**, Zhongqiu Zhao, Xuegang Hu, Yiuming Cheung, Haibo Hu, Fangqing Gu. Online Learning Towards Big Data Analysis in Health Informatics. *International Conference on Brain and Health Informatics (BHI)*, 2013.

20. Linhai Ma, Zhongqiu Zhao, **Jing Wang**. ApLeafis: an android-based plant leaf identification system. *International Conference on Intelligent Computing (ICIC)*, 2013.

21. **Jing Wang**, Gongqing Wu, Xuegang Hu. A Heuristic Algorithm for Scheduling on Grid Computing Environment. *ChinaGrid Annual Conference (ChinaGrid)*, 2012.