

# Yunhe Feng

**UW Data Science Postdoctoral Fellow**  
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## EDUCATION

**Ph.D.** in Computer Science, University of Tennessee, Knoxville, USA, 2020  
**M.E.** in Computer Technology, Beijing University of Technology, China, 2014  
**B.E.** in Computer Science & Technology, Beijing University of Technology, China, 2011

## PROFESSIONAL EXPERIENCE

<b>University of Washington</b> <i>UW Data Science Postdoctoral Fellow</i> , Sep. 2021 – Current	Seattle, WA
<b>University of Washington</b> <i>Postdoctoral Scholar</i> , Aug. 2020 – Aug. 2021	Seattle, WA
<b>University of Tennessee, Knoxville (UTK)</b> <i>Graduate Research Assistant</i> , 2014 – 2020	Knoxville, TN
<b>Oak Ridge National Laboratory</b> <i>Research Assistant</i> , Dec. 2018 – Sep. 2019	Oak Ridge, TN
<b>Oak Ridge National Laboratory</b> <i>Deep Learning Research Intern</i> , Summer 2018	Oak Ridge, TN

## HONORS & AWARDS

- UW Data Science Postdoctoral Fellowship, 2021
- Best Presentation, Audience Award Nomination and Judges Award Nomination, UbiComp, 2020
- Student Registration Grants, IEEE Symposium on Security and Privacy (Oakland S&P), 2020
- Min H. Kao Fellowship (**The Highest Departmental Award**), UTK, 2019-2020
- The Graduate Student Senate (GSS) Travel Awards, UTK, 2019
- Gonzalez Family Awards (Outstanding Graduate Research Assistant), UTK, 2018, 2019
- Best Paper Award, BigDataSecurity, 2018
- Honorable Mention for Best Paper, CloudCom, 2017
- Finalist, The INFORMS Syngenta 2017 Crop Challenge in Analytics (**Top 5 among 600 Teams**), 2017
- EECS Department Excellence Fellowship, UTK, 2014-2015
- Outstanding Graduate Student Award, Beijing University of Technology, 2014
- Third-Prize in 14th China National Robotics Championship FIRA Simulation Competition, 2012
- Third-Prize in RoboCup (Robot World Cup) China Open 2012 Simulation 2D Group, 2012
- Outstanding Undergraduate Student Award, Beijing University of Technology, 2011

## AWARDED GRANTS

- UW-Microsoft Azure Cloud Computing Credits (\$20,000), Yunhe Feng and Chirag Shah, 2021
- NSF-funded XSEDE Startup Allocation (\$1,600), Yunhe Feng, 2021
- Google & Harvard Global Health Institute COVID-19 Research Credits (\$9,000), Yunhe Feng, 2020
- Kaggle's Open Data Research Grant Award (\$2,000), Yunhe Feng, 2020

## PUBLICATIONS

### *Peer-Reviewed Conference and Journal Papers*

1. **Yunhe Feng** and Chirag Shah. Has CEO Gender Bias Really Been Fixed? Adversarial Attacking and Improving Gender Fairness in Image Search. In *Proceedings of the AAAI conference on artificial intelligence (AAAI)*, 2022 [Accepted, Acceptance rate: 15%].
2. **Yunhe Feng** and Chirag Shah. Unifying Telescope and Microscope: A Multi-lens Framework with Open Data for Modeling Emerging Events. *Information Processing and Management (IP&M)*, 2021 [Accepted, Impact factor: 6.222].
3. **Yunhe Feng** and Wenjun Zhou. Work from Home During the COVID-19 Pandemic: An Observational Study Based on A Large Geo-Tagged COVID-19 Twitter Dataset (UsaGeoCov19). *Information Processing and Management (IP&M)*, 2021 [Accepted, Impact factor: 6.222].
4. **Yunhe Feng**, Daniel Saelid, Ke Li, Ruoyuan Gao, and Chirag Shah. Towards Fairness-Aware Ranking by Defining Latent Groups Using Inferred Features. *International Workshop on Algorithmic Bias in Search and Recommendation at European Conference on Information Retrieval (BIAS@ECIR)*, 2021.
5. Sian Jin, Chengming Zhang, Xintong Jiang, **Yunhe Feng**, Hui Guan, Guanpeng Li, Shuaiwen Leon Song, and Dingwen Tao. COMET: A Novel Memory-Efficient Deep Learning Training Framework by Using Error-Bounded Lossy Compression. *International Conference on Very Large Data Bases (VLDB)*, 2022 [Accepted].
6. **Yunhe Feng**, Haoran Niu, Fanqi Wang, Susan Ivey, Jayne Wu, Hairong Qi, Raul Almeida, Shigetoshi Eda, and Qing Cao. SocialCattle: IoT-based Mastitis Detection and Control through Social Cattle Behavior Sensing in Smart Farms. *IEEE Internet of Things Journal*, 2021 [Accepted, Impact factor: 9.936].
7. Jiannan Tian, Sheng Di, Xiaodong Yu, Cody Rivera, Kai Zhao, Sian Jin, **Yunhe Feng**, Xin Liang, Dingwen Tao, and Franck Cappello. cuSZ (x): Optimizing Error-Bounded Lossy Compression for Scientific Data on GPUs. *IEEE International Conference on Cluster Computing (CLUSTER)*, 2021.
8. **Yunhe Feng**, Dong Zhong, Peng Sun, Weijian Zheng, Qinglei Cao, Xi Luo, and Zheng Lu. Micromobility in Smart Cities: A Closer Look at Shared Dockless E-Scooters via Big Social Data. In *ICC 2021-2021 IEEE International Conference on Communications (ICC)*. IEEE, 2021.
9. **Yunhe Feng** and Wenjun Zhou. Seed Stocking Via Multi-Task Learning. *arXiv:2101.04333*, 2021.
10. **Yunhe Feng** and Wenjun Zhou. Is working from home the new norm? an observational study based on a large geo-tagged covid-19 twitter dataset. *arXiv preprint arXiv:2006.08581*, 2020.
11. Peng Sun, Zhibo Wang, Liantao Wu, **Yunhe Feng**, Xiaoyi Pang, Hairong Qi, and Zhi Wang. Towards Personalized Privacy-Preserving Incentive for Truth Discovery in Mobile Crowdsensing Systems. *IEEE Transactions on Mobile Computing*, 2020.
12. **Yunhe Feng**, Qing Cao, Hairong Qi, and Scott Ruoti. SenCAPTCHA: A Mobile-First CAPTCHA Using Orientation Sensors. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies*, 4(2), 2020 [10-year average acceptance rate: 18.5%, **Best Presentation, Audience Award Nomination and Judges Award Nomination @UbiComp2020**].

13. Peng Sun, Zhibo Wang, **Yunhe Feng**, Liantao Wu, Yanjun Li, Hairong Qi, and Zhi Wang. Towards Personalized Privacy-Preserving Incentive for Truth Discovery in Crowdsourced Binary-Choice Question Answering. In *IEEE Conference on Computer Communications (INFOCOM)*. IEEE, 2020 [Acceptance rate of 19.8%].
14. **Yunhe Feng**, Zheng Lu, Wenjun Zhou, Zhibo Wang, and Qing Cao. New Emoji Requests from Twitter Users: When, Where, Why, and What We Can Do About Them. *ACM Transactions on Social Computing (TSC)*, 3(2), April 2020.
15. **Yunhe Feng**, Zongyao Chen, Dali Wang, Jian Chen, and Zhili Feng. DeepWelding: a Deep Learning Enhanced Approach to GTAW Using Multi-source Sensing Images. *IEEE Transactions on Industrial Informatics*, 2019 [Impact factor: 7.377].
16. Zhibo Wang, Yijie Li, Bonan Jin, Qian Wang, **Yunhe Feng**, Yanjun Li, and Huajie Shao. AirMouse: Turning a Pair of Glasses into a Mouse in the Air. *IEEE Internet of Things Journal*, 2019 [Impact factor: 9.515].
17. **Yunhe Feng**, Wenjun Zhou, Zheng Lu, Zhibo Wang, and Qing Cao. The World Wants Mangoes and Kangaroos: A Study of New Emoji Requests Based on Thirty Million Tweets. In *The World Wide Web Conference (WWW)*, pages 2722–2728. ACM, 2019 [Acceptance rate: 20.0%].
18. **Yunhe Feng**, Zheng Lu, Zhonghua Zheng, Peng Sun, Wenjun Zhou, Ran Huang, and Qing Cao. Chasing Total Solar Eclipses on Twitter: Big Social Data Analytics in Once-in-a-lifetime Events. In *2019 IEEE Global Communications Conference (GLOBECOM)*. IEEE, 2019.
19. Lu Zheng, **Yunhe Feng**, and Qing Cao. Two-level Index for Truss Community Query in Large-Scale Graph. In *2019 IEEE Global Communications Conference (GLOBECOM)*. IEEE, 2019.
20. Peng Sun, Liantao Wu, Zhibo Wang, **Yunhe Feng**, and Zhi Wang. SCRA: Structured Compressive Random Access for Efficient Information Collection in IoT. *IEEE Internet of Things Journal*, 7(3):2356–2367, 2019.
21. Zheng Lu, **Yunhe Feng\***, Wenjun Zhou, Xiaolin Li, and Qing Cao. Inferring correlation between user mobility and app usage in massive coarse-grained data traces. *Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (the new publication model of UbiComp)*, 1(4):153, 2018 [\* **Correspondence author**, 10-year average acceptance rate: 18.5%].
22. **Yunhe Feng**, Zheng Lu, and Qing Cao. Secure Sharing of Private Locations through Homomorphic Bloom Filters. In *2018 IEEE 4th International Conference on Big Data Security on Cloud (BigDataSecurity)*, pages 107–113. IEEE, 2018 [**Best Paper Award**, acceptance rate: 18.6%].
23. **Yunhe Feng**, Zheng Lu, Wenjun Zhou, Qing Cao, and Xiaolin Li. A multi-granularity perspective for spatial profiling of mobile apps. *Information Sciences*, 430:127–141, 2018 [Impact factor: 4.832].
24. Zheng Lu, **Yunhe Feng**, and Qing Cao. Decentralized Search for Shortest Path Approximation in Large-Scale Complex Networks. In *2017 IEEE International Conference on Cloud Computing Technology and Science (CloudCom)*, pages 130–137. IEEE, 2017 [**Best Paper Candidate**, acceptance rate: 29.4%].
25. Qing Cao, **Yunhe Feng**, Zheng Lu, Hairong Qi, Leon M Tolbert, Lipeng Wan, Zhibo Wang, and Wenjun Zhou. Approximate cardinality estimation (ACE) in large-scale internet of things deployments. *Ad Hoc Networks*, 66:52–63, 2017 [Impact factor: 3.047].

26. Lipeng Wan, Zhibo Wang, Zheng Lu, **Yunhe Feng**, Hairong Qi, Wenjun Zhou, and Qing Cao. Approximate and Sublinear Spatial Queries for Large-Scale Vehicle Networks. *IEEE Transactions on Vehicular Technology (TVT)*, 67(2):1561–1569, 2017 [Impact factor: 2.243].
27. Teja Kuruganti, Olufemi Omitaomu, and **others**. Real-Time Automated Health Information Technology Hazard Detection. Technical report, Oak Ridge National Lab, TN (United States), 2019.

## TEACHING EXPERIENCE

### *Guest Lecturer*

- M485 **Advanced Digital Merchandising**, Indiana University Bloomington, Fall 2020, Spring 2021
- M485 **Data-Driven Decisions**, Indiana University Bloomington, Spring 2020
- BAZN 557 **Text Mining**, Haslam College of Business, UTK, Fall 2018, Fall 2019

### *Teaching Assistant*

- ECE 453/553 **Computer Communication Networks**, Spring 2018
- COSC 361 **Operating Systems**, Spring 2015, Fall 2016, Spring 2017
- ECE 451 **Computer Systems Architecture**, Fall 2014

## PROFESSIONAL ACTIVITIES

### *Technical Program Committee*

- International Workshop on Emoji Understanding and Applications in Social Media (Emoji2021), 2021
- International Symposium on Emerging Information Security and Applications (EISA), 2021, 2020
- Intl. Conferences on High Performance Computing and Communications (HPCC), 2021, 2020
- IEEE Global Communications Conference (GLOBECOM), 2021, 2020, 2019

### *Journal Reviewer*

- Reviewer for Journal of Information Science, 2021
- Reviewer for Journal of the Association for Information Science and Technology (JASIST), 2021
- **Associate Editor** for ASIS&T Information Matters (IM) Since 2021
- Editorial Board Members for International Journal of Data Science (IJDS) Since 2021
- Reviewer for Information Processing & Management (IP&M), 2021
- Reviewer for Elsevier Computers & Security, 2020
- Reviewer for IEEE Transactions on Industrial Informatics (TII), 2020
- Reviewer for IEEE Access Journal, 2019

- Reviewer for International Journal of Forecasting, 2019
- External referee for IEEE Transactions on Knowledge and Data Engineering (TKDE), 2018

### *Conference Reviewer*

- Reviewer for 2022 ACM CHI Conference on Human Factors in Computing Systems (CHI), 2021
- Reviewer for 2021 IEEE Visualization Conference (VIS), 2021
- Reviewer for 2021 IEEE VR (VR), 2021
- Reviewer for American Medical Informatics Association (AMIA) Annual Symposium, 2021, 2020
- External referee for ACM SIGKDD Int'l Conf. on Knowledge Discovery & Data Mining (SIGKDD), 2019
- Reviewer for 14th IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS), 2017
- External referee for the IEEE International Conference on Data Mining (ICDM), 2016
- Reviewer for International Conference on Mobile Ad-hoc and Sensor Networks (MSN), 2016, 2019
- Reviewer for the 2016 International Conference on Information Systems (ICIS), 2016

### **TECHNICAL SKILLS**

- **User Study:** Amazon Mechanical Turk (MTurk), Qualtrics, IRB application
- **Deep Learning:** Python, TensorFlow, PyTorch, Keras, Torch
- **Big Data:** Python, Spark, Matlab
- **Web/Android App Development:** HTML, JavaScript, MySQL, PHP, Java, XML
- **Software Development:** C++, C#, Qt, C, Fortran

### **MEDIA COVERAGE**

- Why Isn't There a Sarcasm Emoji? [[Financial Times](#)] [[Yahoo! Finance](#)] [[Business Insider](#)]
- The Algorithm Shows Which New Emoji Twitter Users Want Most [[TNW](#)] [[News Break](#)]
- 'Sarcasm' among most requested emojis according to UT study [[WBIR-TV](#)] [[Video](#)]