

# Yuchen Zhao

Lecturer in Computer Science

## Education

- 2013–2017 **Ph.D., Computer Science**, University of St Andrews, St Andrews, UK
- 2011–2013 **M.Sc., Information Security**, Wuhan University, Wuhan, China
- 2007–2011 **B.Eng., Information Security**, Huazhong University of Science and Technology, Wuhan, China

## Appointments

- 09/2022– **Lecturer**, Department of Computer Science, University of York, York, UK
- 10/2019– **Research Associate**, Dyson School of Design Engineering, Imperial College London, London, UK  
09/2022
- 07/2018– **Research Fellow**, School of Electronics and Computer Science, University of Southampton, Southamp-  
10/2019 ton, UK
- 07/2017– **Research Fellow**, Cyber Security Centre, De Montfort University, Leicester, UK  
06/2018

## Publications

- [1] A. M. Abdelmoniem and Y. Zhao. Knowledge Routing in Decentralized Learning. *IEEE Intelligent Systems*, 40(1):38–44, 2025. <https://doi.org/10.1109/MIS.2024.3505543>.
- [2] Y. Huang, R. Aloufi, X. Cadet, Y. Zhao, P. Barnaghi, and H. Haddadi. Low-Energy On-Device Personalization for MCUs. In *Proceedings of 2024 IEEE/ACM Symposium on Edge Computing*, pages 45–58, Rome, Italy, 2024. <https://doi.org/10.1109/SEC62691.2024.00012>.
- [3] Y. Huang, J. Millar, Y. Long, Y. Zhao, and H. Haddadi. Towards Low-Energy Adaptive Personalization for Resource-Constrained Devices. In *Proceedings of the 4th Workshop on Machine Learning and Systems*, pages 73–80, Athens, Greece, Apr. 2024. <https://doi.org/10.1145/3642970.3655826>.
- [4] Y. Huang, Y. Zhao, A. Capstick, F. Palermo, H. Haddadi, and P. Barnaghi. Analyzing Entropy Features in Time-Series Data for Pattern Recognition in Neurological Conditions. *Artificial Intelligence in Medicine*, page 102821, 2024. <https://doi.org/10.1016/j.artmed.2024.102821>.
- [5] C. Adams, M. Eslamnejad, A. Khadka, A. M'manga, H. Shaw, and Y. Zhao. Auditing AI Systems: A Metadata Approach. In M. Bramer and F. Stahl, editors, *Artificial Intelligence XL*, Lecture Notes in Computer Science, pages 241–246, Cham, 2023. Springer Nature Switzerland. [https://doi.org/10.1007/978-3-031-47994-6\\_22](https://doi.org/10.1007/978-3-031-47994-6_22).
- [6] M. Niu, Y. Zhao, and H. Haddadi. (Poster) Effective Abnormal Activity Detection on Multivariate Time Series Healthcare Data. In *Proceedings of the 29th Annual International Conference on Mobile Computing and Networking*, Madrid, Spain, Oct. 2023. <https://doi.org/10.1145/3570361.3615741>.
- [7] Y. Huang, Y. Zhao, A. Capstick, F. Palermo, H. Haddadi, and P. Barnaghi. (Preprint) Information Theory Inspired Pattern Analysis for Time-series Data, 2023. Online at <https://arxiv.org/abs/2302.11654>.
- [8] S. Hadjixenophontos, A. M. Mandalari, Y. Zhao, and H. Haddadi. Prism: Privacy preserving healthcare internet of things security management. In *Proceedings of the 2023 IEEE Symposium on Computers and Communications*, pages 919–924, Gammarth, Tunisia, July 2023. <https://doi.org/10.1109/ISCC58397.2023.10218268>.

- [9] Y. Huang, Y. Zhao, H. Haddadi, and P. Barnaghi. Using Entropy Measures for Monitoring the Evolution of Activity Patterns. In *Proceedings of the 2022 IEEE World Forum on Internet of Things*, pages 1–6, Yokohama, Japan, Oct. 2022. <https://doi.org/10.1109/WF-IoT54382.2022.10152050>.
- [10] Y. Zhao, P. Barnaghi, and H. Haddadi. Multimodal Federated Learning on IoT Data. In *Proceedings of the 2022 IEEE/ACM 7th International Conference on Internet-of-Things Design and Implementation*, IoTDI '22, pages 43–54, Milan, Italy, May 2022. <https://doi.org/10.1109/IoTDI54339.2022.00011>.
- [11] Y. Zhao, S. S. Afzal, W. Akbar, O. Rodriguez, F. Mo, D. Boyle, F. Adib, and H. Haddadi. Towards Battery-Free Machine Learning and Inference in Underwater Environments. In *Proceedings of the 23rd Annual International Workshop on Mobile Computing Systems and Applications*, HotMobile '22, page 29–34, Tempe, Arizona, Mar. 2022. <https://doi.org/10.1145/3508396.3512877>.
- [12] Y. Zhao, H. Liu, H. Li, P. Barnaghi, and H. Haddadi. (Preprint) Semi-supervised Federated Learning for Activity Recognition, 2021. arXiv:2011.00851, Online at <https://arxiv.org/abs/2011.00851>.
- [13] F. Palermo, H. Li, A. Capstick, N. Fletcher-Lloyd, Y. Zhao, S. Kouchaki, R. Nilforooshan, D. Sharp, and P. Barnaghi. (Poster) Designing A Clinically Applicable Deep Recurrent Model to Identify Neuropsychiatric Symptoms in People Living with Dementia Using In-Home Monitoring Data. In *NeurIPS '21 Workshop - Bridging the Gap: From Machine Learning Research to Clinical Practice*, 2021. arXiv:2110.09868, Online at <https://arxiv.org/abs/2110.09868>.
- [14] Y. Zhao, H. Haddadi, S. Skillman, S. Enshaeifar, and P. Barnaghi. Privacy-Preserving Activity and Health Monitoring on Databox. In *Proceedings of the Third ACM International Workshop on Edge Systems, Analytics and Networking*, EdgeSys '20, pages 49–54, Heraklion, Greece, Apr. 2020. <https://doi.org/10.1145/3378679.3394529>.
- [15] Y. Zhao and I. Wagner. Using Metrics Suites to Improve the Measurement of Privacy in Graphs. *IEEE Transactions on Dependable and Secure Computing (TDSC)*, 19(1):259–274, Jan. 2022. (first published on 13 Mar 2020), <https://doi.org/10.1109/TDSC.2020.2980271>.
- [16] T. Blount, L. Koesten, Y. Zhao, and E. Simperl. Understanding the Use of Narrative Patterns by Novice Data Storytellers. In *Proceedings of the 4th International Conference on Computer-Human Interaction Research and Applications*, pages 128–138, 2020. <https://doi.org/10.5220/0010121601280138>.
- [17] Y. Zhao, T. Blount, L. Koesten, and E. Simperl. Structured and Uncertainty-Aware Data Storytelling. In *CHI '19 Workshop on HCI for Accurate, Impartial and Transparent Journalism: Challenges and Solutions*, Glasgow, UK, May 2019. Online at <https://bit.ly/3bSkuVh>.
- [18] Y. Zhao and I. Wagner. On the Strength of Privacy Metrics for Vehicular Communication. *IEEE Transactions on Mobile Computing (TMC)*, 18(2):390–403, Feb. 2019. (first published on 03 May 2018), <https://doi.org/10.1109/TMC.2018.2830359>.
- [19] Y. Zhao and I. Wagner. Poster: Evaluating Privacy Metrics for Graph Anonymization and De-Anonymization. In *Proceedings of the 2018 Asia Conference on Computer and Communications Security*, ASIACCS '18, pages 817–819, Incheon, Republic of Korea, 2018. <https://doi.org/10.1145/3196494.3201586>.
- [20] Y. Zhao. *Recommending Privacy Preferences in Location-sharing Services*. PhD thesis, University of St Andrews, June 2017.
- [21] Y. Zhao, J. Ye, and T. Henderson. A Robust Reputation-Based Location-Privacy Recommender System Using Opportunistic Networks. In *Proceedings of the 8th EAI International Conference on Mobile Computing, Applications and Services*, MobiCASE'16, pages 62–73, Cambridge, Great Britain, 2016. <https://doi.org/10.4108/eai.30-11-2016.2267031>.
- [22] Y. Zhao, J. Ye, and T. Henderson. The Effect of Privacy Concerns on Privacy Recommenders. In *Proceedings of the 21st International Conference on Intelligent User Interfaces*, IUI '16, pages 218–227, Sonoma, California, USA, Mar. 2016. <https://doi.org/10.1145/2856767.2856771>.
- [23] Y. Zhao. Usable Privacy in Location-Sharing Services. In *Companion Publication of the 21st International Conference on Intelligent User Interfaces*, IUI '16 Companion, pages 110–113, Sonoma, California, USA, Mar. 2016. <https://doi.org/10.1145/2876456.2876458>.

- [24] Y. Zhao, J. Ye, and T. Henderson. Privacy-Aware Location Privacy Preference Recommendations. In *Proceedings of the 11th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services*, MOBIQUITOUS '14, pages 120–129, London, United Kingdom, Dec. 2014. <https://doi.org/10.4108/icst.mobiquitous.2014.258017>.
- [25] Y. Zhao, J. Ye, and T. Henderson. (Poster) Recommending Location Privacy Preferences in Ubiquitous Computing. In *Proceedings of the 7th ACM Conference on Security and Privacy in Wireless and Mobile Networks*, WiSec '14, Oxford, United Kingdom, July 2014. Online at <http://hdl.handle.net/10023/5075>.

## Service

### Technical programme committees

- 2025 **Program committee, The 5th Workshop on Machine Learning and Systems (EuroMLSys), March, 2024, Rotterdam, Netherlands**
- 2024 **Program committee, The 14th International Conference on the Internet of Things, November, 2024, Oulo, Finland**  
**Program committee, The 33rd International Conference on Computer Communications and Networks (ICCCN '24), July, 2024, Big Island, Hawaii, USA**
- 2023 **Program committee, The 32nd International Conference on Computer Communications and Networks (ICCCN '23), July, 2023, Honolulu, Hawaii, USA**
- 2022 **Program committee, The 2nd IEEE/IFIP International Workshop on Internet of Things Management (Manage-IoT '22, co-located with IEEE/IFIP NOMS '22), April, 2022, Budapest, Hungary**
- 2021 **Program committee, The 1st Workshop on Security and Privacy for Mobile AI (MAISP '21, co-located with ACM MobiSys '21), 24 June, 2021, Online, Worldwide**
- 2020 **Program committee, The 14th ACM Conference on Recommender Systems (RecSys '20), 22-26 September, 2020, Online, Worldwide**
- 2019 **Program committee, Demo & LBR of the 27th ACM Conference on User Modelling, Adaption and Personalization (UMAP '19), 9-12 June, 2019, Larnaca, Cyprus**  
**Program committee, The 27th ACM Conference on User Modelling, Adaption and Personalization (UMAP '19), 9-12 June, 2019, Larnaca, Cyprus**
- 2018 **Poster committee, The 16th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys '18), 10-15 June, 2018, Munich, Germany**

### Organising Committee

- 2020 **Local arrangements co-chairs, The 26th Annual International Conference on Mobile Computing and Networks (MobiCom '20), 21-25 September, 2020, London, United Kingdom**

### Reviewer

- 2025 **IEEE Transactions on Networking**
- 2024 **IEEE Transactions on Knowledge and Data Engineering**  
**Journal of Information Security and Applications**
- 2023 **IEEE Internet of Things Journal**  
**IEEE Transactions on Dependable and Secure Computing**  
**Computer & Security**  
**IEEE Transactions on Big Data**
- 2022 **IEEE Transactions on Computers**  
**Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies**  
**ACM Transactions on Privacy and Security**  
**ACM Transactions on Computing for Healthcare**
- 2021 **IEEE Transactions on Information Forensics and Security**  
**IEEE Transactions on Big Data**
- 2020 **IEEE Transactions on Big Data**  
**Computers & Security**

- 2018 **Computer Communications**  
**Journal of Information Security and Applications**
- 2016 **The 13th International Conference on Wirtschaftsinformatik**, *February 12-15, 2017*, St. Gallen, Switzerland  
**Policy & Internet**
- 2015 **The 12th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC '15)**, *August 10-14, 2015*, Beijing, China  
**The 7th EAI International Conference on Mobile Computing, Applications and Services (MobiCASE '15)**, *November 12-13, 2015*, Berlin, Germany  
**Student Volunteer**
- 2016 **The 8th EAI International Conference on Mobile Computing, Applications and Services (MobiCASE '16)**, *Cambridge, UK*  
**The 21st International Conference on Intelligent User Interface (IUI '16)**, *Sonoma, CA, USA*

## Talks

- 2021 **"Federated Learning in the Wild"**, *Brave Research Reading Session*, Online  
**"Smart Healthcare using IoT Data and Machine Learning"**, *Sensing and the Internet of Things*, Online  
**"IoT Technology based Solutions to Challenges in Healthcare"**, *ULTRATOOL-IoT Student Project*, Online
- 2020 **"IoT Technology based Solutions to Challenges in Healthcare"**, *Sensing and the Internet of Things*, Online  
**"Privacy-preserving Activity and Health Monitoring on Databox"**, *The Third ACM International Workshop on Edge Systems, Analytics and Networking*, Online
- 2018 **"Human Data Interaction"**, *WAIS Seminar*, Southampton
- 2017 **"A Robust Reputation-based Location-privacy Recommender System using Opportunistic Networks"**, *The Scottish Networking Event (SCONE)*, Glasgow
- 2016 **"A Robust Reputation-based Location-privacy Recommender System using Opportunistic Networks"**, *The 8th EAI International Conference on Mobile Computing, Applications and Services*, Cambridge  
**"Usable Privacy in Location-Sharing Services"**, *The Student Consortium of the 21st International Conference on Intelligent User Interfaces*, Sonoma  
**"The Effect of Privacy Concerns on Privacy Recommenders"**, *The 21st International Conference on Intelligent User Interfaces*, Sonoma
- 2014 **"Privacy-aware Location-privacy Preference Recommendations"**, *The 11th International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services*, London  
**"Privacy-aware Location-privacy Preference Recommendations"**, *The Scottish Networking Event (SCONE)*, Edinburgh

## Funding

- 2023 **Building a Minimal Viable Digital Identity from Digital Footprints (Co-I)**, *EPSRC SPRITE+ Sandpit*, 4 months, £35.9k  
**AI Testing Innovation (Expert Panel)**, *Innovate UK Transformative Technologies*, 6 months, £49.9k
- 2013–2017 **600<sup>th</sup> Anniversary Scholarship (award rate = 7/80)**, *University of St Andrews*
- 2016 **IUI 2016 Student Travel Grant**

## Student Supervision

- 21–22 (ICL) **Ph.D (as assistant supervisor)**, Mengjia Niu  
21–22 (ICL) **Ph.D (as assistant supervisor)**, Yushan Huang

## Teaching

- 24–25 (York) **Lecturer (Module Lead)**, NETS (Network Security)  
**Lecturer**, EHAC (Ethical Hacking)
- 23–24 (York) **Lecturer (Module Lead)**, NETS (Network Security)
- 22–23 (York) **Lecturer (Module Lead)**, NETS (Information & Network Security)/NTAC (Networks & Communications Security: Threats, Attacks & Countermeasures)  
**Lecturer**, CRES (Cyber Security Research Skills)  
**Mentor**, WASP (Wider Aspects of Cyber Security)
- 21–22 (ICL) **Guest lecturer**, Sensing and Internet of Things
- 20–21 (ICL) **Guest lecturer**, Sensing and Internet of Things  
**Tutor**, Design Engineering Futures
- 18–19 (Soton) **Tutor**, COMP6234 (Data Visualisation)
- 16–17 (StA) **Demonstrator**, CS1002 (Object-Oriented Programming)  
**Demonstrator**, CS2001 (Foundations of Computation)  
**Demonstrator**, CS2003 (The Internet and the Web: Concepts and Programming)
- 15–16 (StA) **Tutor**, CS1002 (Object-Oriented Programming)  
**Tutor**, CS1006 (Programming Projects)  
**Demonstrator**, CS1002 (Object-Oriented Programming)  
**Demonstrator**, CS2001 (Foundations of Computation)  
**Demonstrator**, CS2003 (The Internet and the Web: Concepts and Programming)
- 14–15 (StA) **Tutor**, CS1006 (Programming Projects)  
**Demonstrator**, CS1002 (Object-Oriented Programming)  
**Demonstrator**, CS1003 (Programming with Data)  
**Demonstrator**, CS1006 (Programming Projects)  
**Demonstrator**, CS2003 (The Internet and the Web: Concepts and Programming)