YE TIAN

University of Science and Technology of China, Hefei, Anhui, China
(+86)18091746933 ⋄ tianyecs@mail.ustc.edu.cn ⋄ [Google Scholar]

OVERVIEW

I am currently a graduate student at USTC, and I would like to thank my advisor *IEEE/ACM Fellow* Prof. Xiang-Yang Li for his constant guidance and encouraging me to pursue a doctorate. Also, I would like to thank many people who have helped me. They opened my eyes to research, guided me to do meaningful research and always gave me confidence. During my university, Prof. Yong Deng and Prof. Bingyi Kang guided me towards information fusion and intelligent decision making. Under their guidance, I published papers in top journals such as *IEEE Transactions on Fuzzy Systems*, *Applied Soft Computing*, etc., and got the opportunity to design a decision framework with the member of the Royal Canadian Academy of Sciences and *IEEE Life Fellow* Prof. Witold Pedrycz. Recently, my main research interests are in Human-Computer Interaction, Mobile Computing and Ubiquitous Computing. Some of our research has been published in top conferences such as *INFOCOM*, *IWQoS*, etc., and some of our study is under revision or review in *MobiCom*, *UbiComp (ACM IMWUT)*, etc. I would also like to thank a number of collaborators in these studies, especially *IEEE Fellow* Prof. Yusheng Ji (NII), Prof. Chenren Xu (Peking University), Prof. Hao Zhou and Prof. Jiahui Hou (USTC).

EDUCATION

University of Science and Technology of China, Anhui — ***September 2021 - Now***
School of Computer Science and Technology — **GPA 3.40/4.3 M.S.**
Northwest A&F University, Shaanxi — ***August 2017 - June 2021***
College of Information Engineering — **GPA 3.51/4.0 B.E.**

RESEARCH EXPERIENCE

National Key Research and Development Program of Ministry of Science and Technology of China, *Main student participants of the project* — September 2021 - March 2023

- The subject of the research is about the core technology of Internet of Things and smart city security and jointly undertaken by 21 units such as Tsinghua University and the Institute of Information Engineering of the Chinese Academy of Sciences. As the main participating student of the project, my research focuses on identity authentication and behavior analysis when users interact with IoT devices.
- I have some studies that have been published in leading international conferences, including ***INFOCOM*** and ***IWQoS***. Recently, some of our other studies have submitted revised versions to ***UbiComp (ACM IMWUT 2023)*** or are under review in ***MobiCom 2024*** and ***INFOCOM 2024***.

USTC-Deqing Alpha Innovation Institute, *Internship* — April 2021 - September 2021

- Recommended by Prof. Xiang-Yang Li, I interned at University of Science and Technology of china - Deqing Alpha Innovation Institute for about half a year. During this time, I acquired a lot of cutting-edge knowledge. Meanwhile, I led the design of some modules of the IoT security platform system and the development of related algorithms. We proposed a novel Scalable IoT Security Framework, which used the unforgeable physical layer characteristics of IoT devices as the basis for authentication to identify rogue devices. It designs a complete process to generate unique and trusted identifiers. After extensive experimentation, our algorithm has high robustness and stability. Currently, the related algorithms and systems have been deployed in several real-world scenarios.
- **My advisor and I submitted the relevant patent and they are in the process of approving it. Due to my outstanding performance, I was recognized as an outstanding intern**.

National Natural Science Foundation of China-Youth Program, *Research assistant* October 2018 - June 2021

· I am very grateful to Prof. Yong Deng and Prof. Bingyi Kang, who guided me from interest and curiosity to real research during my undergraduate years. Their rigorous thinking and analytical approach and attitude towards problems had a significant impact on me. Moreover, they are not only my mentors but also my friends. Until today, I still often share with them the difficulties and gains I encountered in my research. In this project, we mainly focused on human-centered computing, especially in making decisions in uncertain environments.

· Under their guidance, I have did some good research. For example, based on Dempster-Shafer theory (DST) and Z-number, I proposed a fuzzy clustering algorithm, a reliability evaluation criterion and a soft likelihood function decision model (ZSLF). They are published in top journals such as ***Applied Soft Computing***, ***IEEE Transactions on Fuzzy Systems***, etc. These works were well received by other peers and gave me the opportunity to design a decision-making framework in collaboration with the member of the Royal Canadian Academy of Sciences and *IEEE Life Fellow* Prof. Witold Pedrycz. This work has been submitted to ***Expert Systems with Applications***, a top journal in the field of decision making, and it is in the process of revision.

HONORS AND AWARDS

Selected Scholarships

· Huawei Scholarship -2022

· Academic First-class scholarship -2021

· Lixin Tang Scholarship (Only 60 students were be selected from the whole university) -2020

· National Encouragement Scholarship -2020,2019,2018

· Department First-class Scholarship -2020,2019,2018

Selected Honors

· Outstanding Student Leader in Graduate Student Union -2022/2021

· Outstanding Intern During the Internship in USTC-Deqing Alpha Innovation Institute -2021

· **Outstanding Graduates** of the Whole University -2021

· One of the **100 Campus Stars/ Top Ten** Scientific Research Stars -2020

· **Outstanding Students** of the whole University -2020,2019,2018

· Outstanding Student Leader of the whole University -2020,2019,2018

· Outstanding Representative of Innovation and Entrepreneurship in the whole University -2020

· Outstanding Representative of Social Practice in the whole University -2018

Selected Awards

· International Mathematical Contest in Modeling - Honorable Mention Award -2021

· Forestry Innovation and Entrepreneurship Competition - National Semi-Finalist Award -2020

· College Students Three Innovation Challenge - Provincial Second Prize -2019

· "Internet +" College Student Competition - School-level Gold Award -2019

· Challenge Cup Science and Technology Works of College Students - School-level Third Prize -2019

· College Students Innovation and Entrepreneurship Forum - School-level Third Prize -2018

· National Youth Science and Technology Innovation Competition - Provincial Outstanding Creativity Award / Top 10 **Creative Stars** in the city -2016

SERVICE

Academic Services

· Session Chair - IWQoS 2023 / Bigcom 2022 -2023/2022

· Teaching Assistant - Combinatorial Mathematics -2022

· Research Assistant - During graduate and undergraduate years 2018-Now

Campus Services

· Graduate Student Union Member, Class Secretary 2021-Now

· Tang Lixin Scholarship "Xinji Society" Vice President, USTC Admissions Volunteer 2021

· Class Monitor, Class teacher's Student Assistant 2017/2018-2021

Social Services

· Yangling International Marathon Volunteer -2019

· Excellent Rural Investigation Team -2018

· Summer Vacation Social Practice Activities for College Students -2018

PUBLICATIONS

Papers under revision or review

- As the first author: One paper is under revision review in **UbiComp (ACM IMWUT)**.
- As the first author: One paper is under revision review in **Expert Systems with Applications**.
- As a co-author: One paper is under review in **MobiCom 2024**.
- As a co-author: Two paper is under review in **INFOCOM 2024**.

Selected Papers

1. [*C*] **Ye Tian**, Hao Zhou, Haohua Du, Chenren Xu, Jiahui Hou, Dong Ren, Xiang-Yang Li. BackLip: Passphrase-Independent Lip-reading User Authentication with Backscatter Signals. IEEE/ACM 31th International Symposium on Quality of Service (**IWQoS**), pp. 1-10. IEEE, 2023.
2. [*C*] Kaiwen Guo, Hao Zhou, **Ye Tian**, Wangqiu Zhou, Yusheng Ji, and Xiang-Yang Li. Mudra: A Multi-Modal Smartwatch Interactive System with Hand Gesture Recognition and User Identification. IEEE International Conference on Computer Communications (**INFOCOM**), pp. 100-109. IEEE, 2022.
3. [*J*] **Ye Tian**, Xiangjun Mi, Huizi Cui, Pengdan Zhang, and Bingyi Kang. Using Z-number to measure the reliability of new information fusion method and its application in pattern recognition. **Applied Soft Computing (IF 8.263)** 111 (2021), 107658.

4. [*J*] **Ye Tian**, Xiangjun Mi, Yunpeng Ji, and Bingyi Kang. ZE-numbers: a new extended Z-numbers and its application on multiple attribute group decision making. **Engineering Applications of Artificial Intelligence (IF 7.802)** 101 (2021), 104225.

5. [*J*] **Ye Tian**, Lili Liu, Xiangjun Mi, and Bingyi Kang. ZSLF: A new soft likelihood function based on Z-numbers and its application in expert decision system. **IEEE Transactions on Fuzzy Systems (IF 12.253)** 29, 8 (2020), 2283–2295.

6. [*J*] **Ye Tian** and Bingyi Kang. A modified method of generating Z-number based on OWA weights and maximum entropy. Soft Computing (IF 3.732) 24, 20 (2020), 15841–15852.

7. [*J*] **Ye Tian**, Xiangjun Mi, Lili Liu, and Bingyi Kang. A new soft likelihood function based on D numbers in handling uncertain information. International Journal of Fuzzy Systems (IF 4.085) 22, 7 (2020), 2333-2349.

Other Papers

8. [*C*] Dong Ren, **Ye Tian**, Hao Zhou and Xiang-Yang Li. Finger-Fi: Fingertip Activity Recognition and User Identification with Passive Wireless Backscattering. In International Conference on Big Data Computing and Communication. IEEE, 2022.

9. [*C*] Xieyan Wang, **Ye Tian**, Haohua Du and Xiang-Yang Li. Camera Authentication Using Physical Features based on Handle System ID. In International Conference on Big Data Computing and Communication. IEEE, 2022.

10. [*C*] Yuan Ji, **Tian Ye** and Xiang-Yang Li. Communication is Verification: IoT Identifier System Using Device Fingerprints. In International Conference on Big Data Computing and Communication. IEEE, 2022.

11. [*J*] Xiangjun Mi, Tongxuan Lv, **Ye Tian**, and Bingyi Kang. Multi-sensor data fusion based on soft likelihood functions and OWA aggregation and its application in target recognition system. ISA transactions (IF 5.911) 112 (2021), 137–149.

12. [*J*] Xiangjun Mi, **Ye Tian**, and Bingyi Kang. A hybrid multi-criteria decision making approach for assessing health-care waste management technologies based on soft likelihood function and D-numbers. Applied Intelligence (IF 5.019) 51, 10 (2021), 6708-6727.

13. [*J*] Qing Liu, Huizi Cui, **Ye Tian**, and Bingyi Kang. On the negation of discrete Z-numbers. Information Sciences (IF 8.233) 537 (2020), 18–29.

14. [*J*] Xiangjun Mi, **Ye Tian**, and Bingyi Kang. A modified soft-likelihood function based on POWA operator. International Journal of Intelligent Systems (IF 8.993) 35, 5 (2020), 869–890.

15. [*J*] Qing Liu, **Ye Tian**, and Bingyi Kang. Derive knowledge of Z-number from the perspective of Dempster–Shafer evidence theory. Engineering Applications of Artificial Intelligence (IF 7.802) 85 (2019), 754–764.

Chinese Patent

1. Xiang-Yang Li, **Ye Tian**, Haohua Du, Jiahui Hou and Hao Zhou. A user lip reading authentication method and device based on reverse scattering signal. 202310620935.9, under review.

2. Xiang-Yang Li and **Ye Tian**. Finger writing content and identification method and device based on backscatter signal. 202211600792.7, under review.

3. Xiang-Yang Li and **Ye Tian**. Legitimacy verification method and legality verification device of camera device. 202211610323.3, under review.

4. Xiang-Yang Li and **Ye Tian**. Legality verification method and legality verification device of wireless equipment. 202211546406.0, under review.