YE TIAN

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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

Sensing, interaction, mobile and ubiquitous computing. *Reasearch assistant*
Supervisors: IEEE/ACM Fellow Prof. Xiang-Yang Li Sept. 2021 - Present

· Utilizing SOTA experience in Computer Vision and Deep Learning techniques, we designed a **gesture interaction system** deployed on smartwatches. It combines **visual** and **IMU** signals to recognize user gestures for more convenient and robust interactions and published in ***INFOCOM 2022***.

· We design a user **lip-reading authentication system** based on Wi-Fi backscatter technology. It satisfies some key goals well and achieves SOTA performance. In June of this year, I reported this research and served as a session chair of ***IWQoS 2023*** in Orlando, USA.

· Recently, we focused on the use of interaction technologies in smart health. We designed a **silent speech interface** that can help those with hearing loss and speech impairments to easily communicate by recognizing what they lip-read. It can also extend voice assistants to those restricted scenarios. This study is under revision review for ***ACM IMWUT 2023***.

· Some other studies are under review in ***MobiCom 2024*** and ***INFOCOM 2024***. They are all the top conferences in these research areas.

USTC-Deqing Alpha Innovation Institute. *Internship* Apr. 2021 - Sept. 2021

· 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.

· Extensive experiments demonstrate that our algorithms and systems are highly robust and stable, and it have been used in **several real-world scenarios**.

· We submitted **three patents** and they are in the process of approving it. Due to my outstanding performance, I got the honor of an **outstanding intern**.

Human-centered computing and decision making. *Research assistant*
Supervisors: Prof. Yong Deng and Prof. Bingyi Kang Oct. 2018 - Apr. 2021

· Based on fuzzy mathematics and Dempster-Shafer theory, we proposed fuzzy clustering algorithms, reliability evaluation mechanism and uncertain information decision models. They are published in many top journals such as ***Applied Soft Computing*** and ***IEEE Transactions on Fuzzy Systems***.

· These works have received a lot of attention and praise from other peers, including the member of the Royal Canadian Academy of Sciences and *IEEE Life Fellow* Prof. Witold Pedrycz. We were collaborated on the design of a decision-making framework. It is under revision review in ***Expert Systems with Applications***, a top journal in this field.

HONORS AND AWARDS

Outstanding Student Leader in Graduate Student Union	-2022/2021
Academic First-class scholarship	-2021
Outstanding Graduates of the Whole University (**ranking: 1%**)	-2021
International Mathematical Contest in Modeling - Honorable Mention Award	-2021
Lixin Tang Scholarship (**ranking: 0.2%**)	-2020
National Encouragement Scholarship (**ranking: 3%**), First Class Scholarship	-2020,2019,2018
One of the 100 Campus Stars/ Top Ten Scientific Research Stars (**ranking: 0.5%**)	-2020
Outstanding Students and Student Leader	-2020,2019,2018
Forestry Innovation and Entrepreneurship Competition - National Semi-Finalist Award	-2020
Outstanding Representative of Innovation and Entrepreneurship (**ranking: 0.2%**)	-2020
College Students Three Innovation Challenge - Provincial Second Prize	-2019
"Internet +" College Student Competition - School-level Gold Award	-2019
Outstanding Representative of Social Practice	-2018

SERVICE

Session Chair - IWQoS 2023 / Bigcom 2022	-2023/2022
Teaching Assistant - Combinatorial Mathematics	2022-2023
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
Yangling International Marathon Volunteer	-2019
Excellent Rural Investigation Team	-2018

PUBLICATIONS

Papers under revision or review

- Two papers are under revision review in **ACM IMWUT 2023** and **ESWA 2023**. (First author)
- Three papers are under review in **MobiCom 2024** and **INFOCOM 2024**. (Co-author)

Selected Papers [Full list]

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. [*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.

4. [*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.

5. [*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.

6. [*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.

7. [*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.

8. [*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.

9. [*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.

10. [*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.

11. [*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 4.3) 22, 7 (2020), 2333-2349.

12. [*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.

13. [*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.

14. [*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 Patents

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.