Shuaifan Xia

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Chinese	Native Speaker
English	TOEFL 107
French	A2

Education

2024–on	**Ingénieur in Computer Science**, Télécom Paris, Île-de-France, France.
	GPA: 3.93/4.0
	Core Courses: Parallel and Distributed Computing, Data Mining, Graph Learning
2022–2025	**M.Eng in Computer Science**, Tongji University, Shanghai, China.
	GPA: 4.83/5.0 Ranking: 1/48 *Summa Cum Laude*
	Research Area: Internet of Things, Wireless Communication
2018–2022	**B.Eng in Information Security**, Hangzhou Dianzi University, Zhejiang, China.
	GPA: 4.72/5.0 Ranking: 1/116 *Summa Cum Laude*
	Core Courses: Computer Networks, Principles of Communication, Signals and Systems
2015–2018	Hangzhou Xuejun Highschool, Zhejiang, China.

Research Experience

2022–on	**Resonant Beam System**
	Employing intra-cavity laser beam resonance to achieve high-efficiency wireless power transfer, communication, and positioning.
	Role: Project member, researcher, and simulation program developer.
2019–2022	**Insight Security**
	An integrated network security solution for industrial control system.
	Role: Project leader, system architect, and developer.

Publication Highlights

2025	**Integrated Sensing and Communication System Based on Radio Frequency Resonance Beam**.
	Y. Guo, S. Xia, M. Xiong, Q. Liu, S. Zhou, W. Fang, Q. Jiang, G. Yan, J. Mu.
	Under submission to IEEE Transactions on Signal Processing. arXiv:2501.18878.
2025	**Mobile Self-Protection Resonant Beam SWIPT with Adaptive Phase Control**.
	X. Wang, S. Xia, W. Fang, M. Liu, M. Xiong, Q. Liu, Z. Pan. *IEEE Internet of Things Journal*
	doi:10.1109/JIOT.2025.3595641
2025	**Frequency Division Duplexing Resonant Beam Communication**.
	S. Xia, Q. Liu, Q. Jiang, W. Fang, M. Liu. *IEEE Transactions on Wireless Communications*
	Accepted for publication.
2024	**Millimeter-wave Resonant Beam SWIPT**.
	S. Xia, Q. Jiang, W. Fang, Q. Liu, S. Zhou, M. Liu, M. Xiong. *IEEE Internet of Things Journal*
	doi:10.1109/JIOT.2024.3452121 Open science: ○ Collin911/RF-RBSWIPT
2023	**Auto-Protection for Resonant Beam SWIPT in Portable Applications**.
	S. Xia, Q. Liu, M. Liu, W. Fang, M. Xiong, Y. Bai, X. Li. *IEEE Internet of Things Journal*
	doi:10.1109/JIOT.2023.3298521 Open science: ○ Collin911/Resonant-Beam-AutoPro
2023	**NLOS Transmission Analysis for Mobile SLIPT Using Resonant Beam**.
	M. Liu, S. Xia, M. Xiong, M. Xu, Q. Liu, H. Deng. *IEEE Transactions on Wireless Communications*
	doi:10.1109/TWC.2023.3277593
2022	**Integrated Communication and Positioning With Resonant Beam**.
	M. Liu, S. Xia, M. Xiong, M. Xu, W. Fang, Q. Liu. *IEEE Transactions on Wireless Communications*
	doi:10.1109/TWC.2022.3173929

Patents

2023 **A Portable Auto-Protected Simultaneous Wireless Information and Power Transfer System**.
Q. Liu, S. Xia, M. Liu, Y. Bai, S. Han, M. Xu, X. Li.
CN Patent No.: CN116707652A.   Under examination as to substance.

2023 **A Barcode Scanning System based on Resonant Beam System**.
Q. Liu, X. Li, S. Xia.
CN Patent No.: CN117277030A.   Under examination as to substance.

2023 **A Priority-based Dynamic Communication Resource Allocation Method and Apparatus**.
Q. Liu, Y. Zhu, S. Xia, Q. Jiang, S. Shen.
CN Patent No.: CN116347634A.   Under examination as to substance.

2021 **An Intrusion Detetion Method and Apparatus based on Modbus Packet Reassembly**.
W. Yin, Q. Zheng, H. Hu, S. Xia, K. Ye, X. Zhang, L. Zhai, T. Wu.
CN Patent No.: CN114124447A.   Patent granted in 2024.

2020 **A Lightweight Certificate-Free Industrial Internet of Things Access Control Method and System**.
Q. Chen, T. Wu, Q. Zheng, L. Dong, C. Hu, S. Xia, et., al.
CN Patent No.: CN111526130A.   Patent granted in 2021.

Work Experience

2025–2025 **Peer Reviewer**.
IEEE Journal on Selected Areas in Communications, and *Autonomous Intelligent Systems*.

2023–2025 **Research Mentor**, Chase Education Technology Co., Ltd., Hubei, China.
Mentor undergraduate students in conducting research projects related to computer science.

2019–2022 **Teaching Assistant**, Hangzhou Dianzi University, China.
Signals and Systems, *Steganography and Digital Watermarking*.

2021–2022 **President of Student Union**, Hangzhou Dianzi University, China.
Responsible for internal and financial affairs, and the Dept. Cultural & Academic Activities.

Honors

2024	**France Excellence EIFFEL Scholarship**.	Campus France, France.
2024	**National Scholarship for Master Students**.	Ministry of Education, China.
2023	**Honorable Mention of Excellent Graduate Students**.	Tongji University, Shanghai, China.
2023	**National Scholarship for Master Students**.	Ministry of Education, China.
2022	**Valedictorian of the University Graduation Ceremony**.	Hangzhou Dianzi University, Zhejiang, China.
2022	**University Scholarship for Meritorious Graduates**.	Hangzhou Dianzi University, Zhejiang, China.
2021	**Zhejiang Provincial Scholarship**.	Department of Education, Zhejiang, China.
2021	**Top-10 Students of the Year**.	Hangzhou Dianzi University, Zhejiang, China.
2020	**National Scholarship for Undergraduate Students**.	Ministry of Education, China.
2019	**Zhejiang Provincial Scholarship**.	Department of Education, Zhejiang, China.

Awards & Grants

2021 **Interdisciplinary Contest in Modeling (ICM)**.
Topic: Exploration of the Impact Factors for Music Trending - A Graph-based Approach.
Role: Team leader, core-model builder, and paper writer.
Honorable Mention, USA.

2021 **China College Computer Competition (C4)**.
Topic: Integrative Security Solution including Firewalls, Intrusion Detection Systems (IDS), and Vulnerability Assessments, for Industrial Networks and the Internet of Things.
Role: Team leader, IDS algorithm designer, and visualization platform developper.
Second Prize in Easter China Division, China.

2021 ***Challenge Cup* College Scientific Innovation Contest**.
Topic: Cloud-Edge-Terminal Collaborative Security Protection for the Internet of Things.
Role: Acting team leader, IDS algorithm designer, and visualization platform developper.
Third Prize in Zhejiang Province, China.

2020 ***Challenge Cup* College Entreoreneurship Contest**.
Topic: Cloud-Edge-Terminal Collaborative Security Protection for the Internet of Things.
Role: Team leader, project keynote speaker.
Third Prize in Zhejiang Province, China.

2020 **National Innovation Project Grants for College Students**.
Topic: Integrated Network Security System for Industrial Control System.
Role: Acting team leader, IDS algorithm designer, and visualization platform developper.
Accomplished project.

2019 **National Innovation Project Grants for College Students**.
Topic: Autonomous Intrusion Detection System for Industrial Control System.
Role: Team leader, and IDS developper.
Accomplished project.

2019 **Zhejiang Provincial *Xinmiao* Talent Project Grants**.
Topic: Autonomous Firewall System for Industrial Control System.
Role: Team leader, and firewall developper.
Accomplished project.