Yu (Eugene) Zhang

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EDUCATION

University of Texas at San Antonio, San Antonio, USA September 2019 – Present
Ph.D., Electrical and Computer Engineering
Anticipated date of graduation May 2025
University of Texas at Dallas, Dallas, USA September 2016 - December 2017
M.S., Information Technology and Management
Wuhan University of Technology, Wuhan, China September 2009 – June 2013
B.S., Major in Navigation Technology, Minor in Logistics Management

RESEARCH INTERESTS

Internet of Things, Edge-Cloud Computing,
Wireless Networking, Quantum Computing and Communication, Artificial Intelligence

WORK EXPERIENCE

University of Texas at San Antonio, San Antonio, USA September 2020 – June 2024
Teaching Assistant

- IS 3303 Operating System Security
- IS 4483 Digital Forensic Analysis I
- IS 4523 Digital Forensic Analysis II

University of Texas at San Antonio, San Antonio, USA September 2019 – Present
Research Assistant

- Developed a semi-supervised federated learning framework that leverages a limited set of labeled data on the ground server and a substantial volume of unlabeled data from satellites, enabling efficient training of a building assessment model without the necessity for manual labeling.
- Designed a hybrid quantum-classical generalized Benders' decomposition algorithm to maximize network throughput in integrated satellite-aerial-terrestrial networks by jointly optimizing resource allocation while ensuring compliance with energy constraints.
- Employed successive convex approximation to minimize energy consumption across multiple UAVs by jointly optimizing task offloading, task splitting, communication and computing resource allocation, and UAV deployment strategies.

MLSDealFinder, Dallas, USA August 2017 – June 2019
Business Analyst

- Utilized Spark for string manipulation and large dataset aggregation, facilitating data visualization in Tableau.
- Analyzed and forecasted next year's market trends by developing a time-series model in Python.
- Monitored and analyzed website performance using Google Analytics, implementing optimizations through the design and execution of A/B tests.

SELECTED PUBLICATIONS

[1] **Yu Zhang**, Yanmin Gong, Lei Fan, Yu Wang, Zhu Han, and Yuanxiong Guo, "Quantum-Assisted Joint Virtual Network Function Deployment and Maximum Flow Routing for Space Information Networks", in *IEEE Transactions on Mobile Computing*, vol. 24, no. 2, pp. 830-844, Feb. 2025.

[2] **Yu Zhang**, Yanmin Gong, Lei Fan, Yu Wang, Zhu Han, and Yuanxiong Guo, "Quantum-Assisted Online Task Offloading and Resource Allocation in MEC-Enabled Satellite-Aerial-Terrestrial Integrated Networks", in *IEEE Transactions on Mobile Computing*, *early access*, Dec. 2024, DOI: 10.1109/TMC.2024.3519060.

[3] **Yu Zhang**, Yanmin Gong, Lei Fan, Yu Wang, Zhu Han, and Yuanxiong Guo, "Quantum-Assisted Joint Caching and Power Allocation for Integrated Satellite-Terrestrial Networks", in *IEEE Transactions on Network Science and Engineering*, vol. 11, no. 6, pp. 5163-5174, Nov.-Dec. 2024.

[4] **Yu Zhang**, Yanmin Gong, and Yuanxiong Guo, "Energy-Efficient Resource Management for Multi-UAV-Enabled Mobile Edge Computing", in *IEEE Transactions on Vehicular Technology*, vol. 73, no. 8, pp. 12026-12037, Aug. 2024.

[5] **Yu Zhang**, Yanmin Gong, and Yuanxiong Guo, "Semi-Supervised Federated Learning for Assessing Building Damage from Satellite Imagery", in *Proc. of IEEE International Conference on Communications*, Denver, CO, USA, Aug. 2024, pp. 3821-3826.

[6] **Yu Zhang**, Yanmin Gong, Lei Fan, Yu Wang, Zhu Han, and Yuanxiong Guo, "Efficient Entanglement Routing for Satellite-Aerial-Terrestrial Quantum Networks", in *IEEE Network*, *under review*, Sep. 2024.

[7] Zhidong Gao, **Yu Zhang**, and Yuanxiong Guo, "Heterogeneity-Aware Resource Allocation and Topology Design for Hierarchical Federated Edge Learning", in *IEEE Transactions on Vehicular Technology*, *under review*, Dec. 2025.

[8] Zhidong Gao, Zhenxiao Zhang**, Yu Zhang**, Yanmin Gong, and Yuanxiong Guo, "FedPT: Efficient Federated Proxy-Tuning of Large Language Models", in *ACM Conference on Embedded Networked Sensor Systems*, *under review*, Nov. 2024.

[9] Zhidong Gao, Zhenxiao Zhang, **Yu Zhang**, Tongnian Wang, Yanmin Gong, and Yuanxiong Guo, "Online Client Scheduling and Resource Allocation for Efficient Federated Edge Learning", in *IEEE Transactions on Wireless Communications*, *under review*, Jul. 2024.

SKILLS

Programming Language:	R, SQL, Python
Tools:	SAS, Tableau, Pytorch, Matlab, Google Analytics, Dwave Quantum Solver
Database:	Microsoft SQL Server, MongoDB, Hive
Machine Learning:	Federated Learning, Reinforcement Learning, Large Language Model

HONORS & AWARDS

Graduate School Professional Development Award, UTSA, USA	July 2024
COVID-19 Transdisciplinary Team Grand Challenge Participation Award, UTSA, USA	September 2020
IEEE S&P Student Registration Award, UTSA, USA	May 2020
MIS Data Visualization Competition Finalist, UT Dallas, USA	November 2017
INFORMS Data Analytics Competition Finalist, UT Dallas, USA	April 2017

SERVICES

Technical Program Committee Member:

- Workshop on Generative AI for Smart and Connected Health: Innovations, Challenges, and Applications (GenAI4SCH), IEEE/ACM Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE), 2025

Journal Reviewer

- IEEE Wireless Communications Magazine, 2023
- IEEE/ACM Transactions on Networking (TON), 2025
- IEEE Transactions on Vehicular Technology (TVT), 2020
- IEEE Transactions on Communications (TCOM), 2024, 2025
- IEEE Transactions on Mobile Computing (TMC), 2024, 2025

- IEEE Transactions on Green Communications and Networking (TGCN), 2024
- IEEE Transactions on Cognitive Communications and Networking (TCCN), 2024
- Energy Systems, 2024
- ACM Computing Surveys, 2024
- Mobile Networks and Applications, 2024

Conference Reviewer

- IEEE Global Communications Conference (Globcom), 2020, 2022
- IEEE Conference on Communications and Network Security (CNS), 2021
- IEEE Wireless Communications and Networking Conference (WCNC), 2024
- IEEE International Conference on Distributed Computing Systems (ICDCS), 2025
- IEEE International Conference on Pervasive Computing and Communications (PerCom), 2024

Outreach

- Poster presentation at IEEE International Conference on Communications (ICC), Denver, USA, 2024
- Poster presentation at Conference on Neural Information Processing Systems (NeurIPS) in New In ML workshop, New Orleans, USA, 2023
- Volunteer at MATRIX AI Seminar, San Antonio, USA, 2021
- Volunteer at Big Idea Competition, Dallas, USA, 2017
- Volunteer at National Navigation Summer Camp, Wuhan, China, 2012

PROFESSIONAL AFFILIATION

IEEE Student Member 2019 - present
IEEE Communications Society Member 2019 - present