

# Zhiying Wang

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Date of Birth: 28/01/2000  
Gender: Female



## EDUCATION

### University of Electronic Science and Technology of China

School of Information and Communication Engineering

**MS** in Electronic Information Engineering, GPA: 3.68/4.0

Relevant Coursework: Basis of communication network system; Optimization Methods and Applications; Information Theory; Graph Theory and its Application.

Chengdu, Sichuan, China

September 2022 – Expected June 2025

### Hebei University of Technology

School of Electronic Information Engineering

**BE** in Electronic Information Engineering, GPA: 3.87/4.0

Relevant Coursework: Advanced Mathematics, Linear Algebra, Probability and Statistics, Digital Signal Processing, Signal and Linear System, Data Communication and Computer Network, Theory of Communication.

Tianjin, China

September 2018 – June 2022

## PUBLICATIONS

### Published Article

- **Zhiying Wang**, Gang Sun, Hanyue Su, Hongfang Yu, Bo Lei, and Mohsen Guizani, “Low-Latency Scheduling Approach for Dependent Tasks in MEC-Enabled 5G Vehicular Networks,” in IEEE Internet of Things Journal, vol. 11, no. 4, pp. 6278-6289, Feb.15, 2024.
- Gang Sun, **Zhiying Wang**, Hanyue Su, Hongfang Yu, Bo Lei, and Mohsen Guizani. “Profit Maximization of Independent Task Offloading in MEC-enabled 5G Internet of Vehicles,” in IEEE Transactions on Intelligent Transportation Systems (Early Access).
- **Zhiying Wang**, Guanhua Huang, Gang Sun, Hongfang Yu, Jian Sun. “Reinforcement Q-Learning Enabled Energy-efficient Service Function Chain Provisioning in Multi-Domain Networks,” in Peer-to-Peer Networking and Applications (Early Access).

### Under Review

- **Zhiying Wang**, Tianxi Wei, Gang Sun, Xinyue Liu, Hongfang Yu, Dusit Niyato. “Multi-UAV Enabled MEC Networks: Optimizing Delay through Intelligent 3D Trajectory Planning and Resource Allocation,” Under review at IEEE Transactions on Intelligent Transportation Systems.

## RESEARCH INTERESTS AND DIRECTIONS

- **Mobile Edge Computing (MEC)**: Developing algorithms and systems that leverage the proximity of edge computing resources to reduce latency, enhance data processing speeds, and improve the overall efficiency of mobile networks.
- **Deep Reinforcement Learning (DRL)**: Crafting innovative deep learning models that can learn and adapt through interaction with their environment, aiming to solve complex decision-making and optimization problems.
- **Internet of Things (IoT)**: Designing and implementing IoT systems that intelligently connect and manage a vast network of devices, enabling smarter environments and enhancing human-technology interactions.
- **Unmanned Aerial Vehicles (UAV)**: Investigating the use of UAVs in various applications, from surveillance and delivery to disaster management, focusing on autonomous flight, navigation, and communication technologies.

## PROJECT EXPERIENCES

### Optimization Algorithms in UAV-Assisted Mobile Edge Computing Networks

University of Electronic Science and Technology of China

Role: Leader of my graduation project

July 2022 - today

- **Multi-UAV Edge Computing Network Simulation**: Developed and simulated models for UAV-assisted edge computing, establishing a base for performance optimization.
- **DRL-Based UAV Trajectory Optimization**: Enhanced UAV operational efficiency by optimizing flight trajectories using the DRL algorithm.
- **Game Theory for Efficient Task Scheduling**: Optimized UAV task distribution using game theory, ensuring optimal network performance and task allocation.

### Key Information of Internet Infrastructure Services Platform (KI3)

Led by: Tsinghua University

Role: Representative from the University of Electronic Science and Technology of China, Collaborator

October 2022 - March 2023

- Satellite Communications Research: Led in-depth research on satellite communication technologies with a focus on operational insights and technical specifications.
- Starlink Data Management: Spearheaded the collection and systematic storage of Starlink satellite and ground station data for analytical use.
- Simulation and Modeling Assistance: Enabled precise satellite and ground station modeling simulations for engineers by utilizing geographic and TLE data insights.

#### American Mathematical Contest in Modeling (MCM)

February 2021

Hebei University of Technology

Role: Leader

- Modeling: Developed a PCA-based fungal interaction model, analyzing key biological metrics.
- Leadership and Learning: Led team and self-learned mathematical modeling and LaTeX typesetting.
- Achievement: Secured the Finalist Prize(top 2.8%) with exceptional preparation and effort.

### FELLOWSHIPS & AWARDS

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- Graduate National Scholarship, 2024
- University of Electronic Science and Technology of China, First-Class Scholarship, 2024
- University of Electronic Science and Technology of China, First-Class Scholarship, 2023
- University of Electronic Science and Technology of China, First-Class Scholarship, 2022
- Hebei University of Technology, First-Class Scholarship, 2021
- American Mathematical Contest in Modeling (MCM), Finalist(top 2.8%), 2021
- Hebei University of Technology, Second-Class Scholarship, 2020
- Hebei University of Technology, First-Class Scholarship, 2019
- National College Student English Competition, Third Prize, 2019

### SKILLS & INTERESTS

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**Skills:** Python; Pytorch; Latex; MATLAB; STK(Satellite Tool Kit); Mininet

- Programming & Modeling: Proficient in Python for modeling and algorithm development; experienced with MATLAB, STK and Mininet for satellite and network simulations.
- Deep Learning & Optimization: Skilled in Pytorch for Deep Reinforcement Learning model training; knowledgeable in convex optimization and graph theory for problem-solving.
- Technical Writing: Proficient in Latex for high-quality academic and technical documentation.

**Language:** Chinese(Native); English(TOEFL iBT: 85)

**Interests:** Tennis; Cycling

### REFERRERS

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#### Dusit Niyato

IEEE Fellow, IET Fellow, Professor

College of Computing and Data Science (CCDS) Nanyang Technological University Block N4-02a-32, Nanyang Avenue, Singapore 639798

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#### Gang Sun

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#### Qi Li

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