Zhiying Wang

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

EDUCATION

University of Electronic Science and Technology of China Chengdu, Sichuan, China
School of Information and Communication Engineering September 2022 – Expected June 2025
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.

Hebei University of Technology Tianjin, China
School of Electronic Information Engineering September 2018 – June 2022
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.

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 July 2022 - today
University of Electronic Science and Technology of China
Role: Leader of my graduation project

- 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) October 2022 - March 2023
Led by: Tsinghua University
Role: Representative from the University of Electronic Science and Technology of China, Collaborator

- 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

- 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

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 pending)
Interests: Tennis; Cycling

REFERRERS

Dusit Niyato
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Qi Li
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