SHENG HUA (华盛)

Email: huasheng@shanghaitech.edu.cn
Website: https://dreamerhua.github.io/
Mobile Phone: (+86)17521695773
Live in Haidian District, Beijing, China

EDUCATION

ShanghaiTech University[1], Shanghai, China 2018~2021

- Master in Information and Communication Engineering
- School of Information Science and Technology, ***GPA 3.63/4***
- Receive the master's degree from the University of Chinese Academy of Sciences[2]
- Thesis: Communication System Design and Optimization for Edge Artificial Intelligence
- Advised by Yuanming Shi & Yong Zhou

Xidian University[3], Xi'an, Shaanxi Province, China 2014~2018

- Bachelor in Internet of Things Engineering
- School of Computer Science, ***Rank 1/30, GPA 3.7/4***
- Thesis: Adaptive Video Streaming with deep reinforcement learning
- Advised by Xiaoke Ma

RESEARCH INTERESTS

Machine Learning, Optimization, Human-AI Collaboration, Operations and Service Management, Artificial Intelligence, Natural Language Processing

WORK EXPERIENCE

Algorithm Engineer, An Internet Giant Company in China 2021~2024

1. Ultra-Precision Motion Control System (Commercial Project)

Role: Module Leader & Core Developer

[1] ShanghaiTech University is a young (founded in 2013), small-scale, but high-standard, research- and innovation-oriented university. In 2022, ShanghaiTech joined the list of China's World-Class Universities Project as the youngest university in that list. As of December 2022, ShanghaiTech has published over 11,000 papers, about 3,100 of which are published as ShanghaiTech the first affiliation. Furthermore, 113 are published in Cell, Nature and Science.

[2] ShanghaiTech University is partly affiliated with the Chinese Academy of Sciences. At the time of my graduation in 2021, it had not yet obtained the qualification to independently confer master's degrees in this discipline.

[3] According to the 2024 Global Ranking of Academic Subjects, Xidian University ranked #16 worldwide on Computer Science & Engineering.

- Optimized data acquisition mechanism to significantly boost data sampling efficiency.
- Implemented lossless data sampling at 40kHz ultra-high frequency within a real-time operating system (RTOS) ultra-low latency environment.

2. Network Throughput Enhancement (Commercial Project)

Role: Algorithm Innovator

- Spearheaded the shift from heuristic to neural network algorithms for reliable prediction of wireless channel quality.
- Elevated upstream user transmission rates by 5-10%.
- Commercialized in 2023, benefiting over 10,000 global 5G sites.

3. Network Throughput Enhancement (Research Project)

Role: Algorithm Innovator

- Proposed and demonstrated the potential of LSTM networks for precise network traffic prediction, enabling proactive resource allocation and optimization.
- Enhanced user experience by more than 10%.

RESEARCH

Click Here to See My Google Scholar Web Page.

Journal Publications

1. **Sheng Hua**, Yong Zhou, Kai Yang, Yuanming Shi, and Kunlun Wang. "Reconfigurable intelligent surface for green edge inference."*IEEE Transactions on Green Communications and Networking* 2021. (JCR Q1, IF=5.3) [link] [pdf]
2. Xiangyu Yang, **Sheng Hua**, Yuanming Shi, Hao Wang, Jun Zhang, and Khaled B. Letaief. "Sparse optimization for green edge AI inference."*Journal of Communications and Information Networks* 2020. (SJR Q1, IF=5.2) [link] [pdf]

Peer-Reviewed Conference Proceedings

1. **Sheng Hua**, and Yuanming Shi. "Reconfigurable intelligent surface for green edge inference in machine learning." In proceedings of *2019 IEEE GlobeCom Workshops (GC Wkshps)*, 2019. [link]
2. **Sheng Hua**, Xiangyu Yang, Kai Yang, Gao Yin, Yuanming Shi, and Hao Wang. "Deep learning tasks processing in fog-RAN." In proceedings of *2019 IEEE 90th Vehicular Technology Conference (VTC2019-Fall)*, 2019. [link]
3. **Sheng Hua**, Kai Yang, and Yuanming Shi. "On-device federated learning via second-order optimization with over-the-air computation." In proceedings of *2019 IEEE 90th Vehicular Technology Conference (VTC2019-Fall)*, 2019. [link]

Work in Progress

1. "When AI Takes the Wheel: The Effectiveness of AI vs. Human-generated Content in Tourism Marketing", with Chengxi Li, Qi Cao. Manuscript writing, to be submitted to *Journal of Vacation Marketing: Special Issue on Social Media and Tourism Marketing*. [link]

CONFERENCE PRESENTATIONS

1. On-Device Federated Learning via Second-Order Optimization with Over-the-Air Computation. Paper accepted at the *2019 IEEE 90th Vehicular Technology Conference*. (September, 2019, Hawaii) [slides]
2. Deep Learning Tasks Processing in Fog-RAN. Paper accepted at the *2019 IEEE 90th Vehicular Technology Conference*. (September, 2019, Hawaii) [slides]
3. Reconfigurable Intelligent Surface for Green Edge Inference in Machine Learning. Paper accepted at the *2019 IEEE Global Communications Conference*. (December, 2019, Hawaii) [slides]

TEACHING EXPERIENCE

As a Teaching Assistant for Undergraduate Course, ShanghaiTech University

- Probability Theory and Mathematical Statistics — Fall 2019

SELECTED HONORS & AWARDS

As a Graduate Student — 2018~2021

- Excellent Graduate Student (Top 5%) — 2021
- National Scholarship for Graduate Students (Top 2%) — 2020
- Outstanding Student (Top 5%) — 2019

As an Undergraduate Student — 2014~2018

- Excellent Undergraduate (Top 2%) — 2018
- Special Scholarship (Top 5%) — 2017
- First Level Scholarship (Top 10%) — 2015, 2016

COMPUTER SKILLS

- Languages: Python, C, Matlab, Latex
- Skills: Web Crawler, Scikit-Learn, Paddle-paddle, Data Analysis, TensorFlow

Updated December, 2024