Weihe (Nick) Gao

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EDUCATION

Tsinghua University Beijing, China
MSc of Computer Science *Sep. 2021 - July 2024*
- Courses: Data Security, Blockchains, Distributed Systems, Advanced Networking
- Thesis: Scalability in Heterogeneous Distributed Systems Consensus

Lancaster University United Kingdom
BSc of Computer Science (Honors Degree) *Sep. 2017 - Jun. 2021*
- Academic Dean's List
- Research: Embedded systems, IIoT protocols
- Courses: Digital Systems, Operating Systems, Distributed Systems

Beijing Jiaotong University Beijing, China
BEng of Computer Science *Sep. 2017 - Jun. 2021*
- Honorable Mention, Interdisciplinary Contest In Modeling (ICM2019)
- Thesis: Interconnectivity of smart city lighting systems

RESEARCH

Directions:

Real-time Sensor Networks, Industrial Internet-of-Things, Consensus and Protocols,
Security and Privacy, Scheduling and Predictability

Publications:

[1] Hu, Bingyi, **Weihe Gao**, Cuiping Yan, Yongjun Ni, and Chenqian Li. "Image-based Deflection Measurement and Error Analysis." In Journal of Physics: Conference Series, vol. 1626, no. 1, p. 012024. IOP Publishing, 2020.

[2] Hu, Bingyi, Ke Xing, **Weihe Gao**, Hainan Liu, and Hengyong Li. "Modelling and Implementation of Distributed Rain Water Storage and Utilization." In Journal of Physics: Conference Series, vol. 1624, no. 2, p. 022004. IOP Publishing, 2020.

[3] Wang, Xuheng, Jiaxing Song, Xu Zhang, Junshu Tang, **Weihe Gao**, and Qingwei Lin. "LogOnline: A Semi-Supervised Log-Based Anomaly Detector Aided with Online Learning Mechanism." In 2023 38th IEEE/ACM International Conference on Automated Software Engineering (ASE), pp. 141-152. IEEE, 2023.

Projects:

- Internet-Based Open Integrated Utility Tunnel Information Exchange and Decision Support System
  - Implementation of city-scale monitoring system
  - SW & HW co-design, PCB design, RTOS
- Key Technologies and Application Systems of Internet Plus Micro-circulation Mode Sponge City
  - Environmental modeling, Distributed control
- Geological Disaster Data Visualization and Dynamic Display of Disaster Formation Process Based on WebGL Technology
  - Data capturing and reconstruction
  - Hazard visualization
- Integration and Demonstration of Key Technologies for Green Prefabricated Steel Structural Buildings
  - Data capturing and reconstruction, Hazard visualization

PATENTS

[1] Bridge Bearing State Monitoring Device, CN202220687509.8, Issued Jul. 29, 2022.

[2] A Bridge Bearing State Monitoring Device and Method, CN202210312790.1, Issued May 20, 2022

[3] Bridge Bearing Data Acquisition Device, CN202130879061.0, Issued May 5, 2022.

[4] Bridge Bearing Inclination and Vibration Testing Instrument, CN202030653807.1, Issued Aug. 27, 2021

[5] A Device for Personnel Detection in an Intelligent Home Privacy Space, CN 2020 2 0798927.5, Issued Nov. 13, 2020.

[6] Signal Acquisition and Output Circuit and Device, CN ZL 2019 2 1598628.0, Issued Sep. 24, 2019.

[7] Communication Conversion Circuit and Conversion Device, CN ZL 2019 2 1587430.2, Issued Sep. 23, 2019.

[8] An Image Analysis-Based Spot Position Detection Sensor, CN ZL 2019 2 0427925.2, Issued Apr. 1, 2019.

[9] Expandable Folding Seat for Sleeping Carriage Aisles, CN201620794058.2, Issued Dec. 21, 2016.

INTERNSHIPS & RESPONSIBILITIES

C++ Development Intern (security and privacy) — Beijing, China
Beijing Yeez Technology Co., Ltd. — *May 2023 - Apr. 2024*
- TEE-based confidential computing platform (C / C++ / Rust)
- Fidelius: blockchain platform tailored for confidential computing (C / C++ / Solidity)
- Invited talks on TEE prototypes (SGX / TDX / SEV / TrustZone / Keystone)

Chairman, Founder — Beijing Jiaotong University
SEAL International Innovation Club — *Apr. 2019 - Mar. 2021*
- Aim: international scientific collaboration
- Scientific events organization, fund raising

Head of Public Engagement — Beijing Jiaotong University
Student Union — *Oct. 2017 - Dec. 2019*
- Responsibilities: public engagements (especially with international organizations)
- Reached out to local marchants for collaboration

REFERENCES

Prof. Fahad Dogar — Tufts University
Associate Professor — *fahad@cs.tufts.edu*

Prof. Yingdi Shan — Tsinghua University
Assistant Research Professor — *shanyd@tsinghua.edu.cn*

Prof. Bingyi Hu — Beijing Jiaotong University
Associate Professor — *hby@bjtu.edu.cn*