

WENJIE LUO

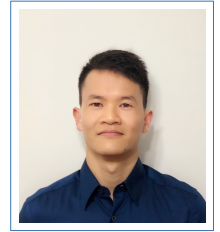
PhD Candidate

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🐙 Github in LinkedIn



Research Interests

My research interests lie in improving the performance/efficiency of artificial intelligence (AI) powered Internet of things (IoT) systems. Specifically, I exploit the first principles, together with state-of-the-art machine learning to address the challenges of data scarcity, data labeling or the domain shifts in a cyber-physical system.

Education

- 2019 Aug – 2023 July (expected) **P.h.D, School of Computer Science and Engineering, Nanyang Technological University, Singapore.**
PhD program working title: Exploiting Physical Knowledge for AIoT
- 2011 Aug –2015 June **Bachelor of Engineering, School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore.**

Publications

In Conference Proceedings

- PhyAug: Physics-directed data augmentation for deep sensing model transfer in cyber-physical systems.
Wenjie Luo, Zhenyu Yan, Qun Song, Rui Tan.
[ACM/IEEE IPSN'21], *The 20th ACM/IEEE International Conference on Information Processing in Sensor Networks(IPSIN)*, May 18–21, 2021, Nashville, TN, USA
(Acceptance ratio: 26/105=24.8%). **Best Artifacts Award Runner-up**
- ILLOC: In-Hall Localization with Standard LoRaWAN Uplink Frames.
Dongfang Guo, Chaojie Gu, Linshan Jiang, **Wenjie Luo**, Rui Tan.
[ACM UbiComp'22], *ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp)*, September 11 — 15, Atlanta, USA and Cambridge, UK
- Sardino: Ultra-fast dynamic ensemble for secure visual sensing at mobile edge.
Qun Song, Zhenyu Yan, **Wenjie Luo**, Rui Tan.
[EWSN'22], *The 19th International Conference on Embedded Wireless Systems and Networks (EWSN)*, October 3 - 5, Linz, Austria
(Acceptance ratio: 14/46=30%)

Journal Papers

- Physics-directed data augmentation for deep model transfer to specific sensor.
Wenjie Luo, Zhenyu Yan, Qun Song, Rui Tan.
[TOSN], *ACM Transactions on Sensor Networks (TOSN)*

Demo

1. Demo Abstract: Infrastructure-Free Smartphone Indoor Localization Using Room Acoustic Responses.

Wenjie Luo, Dongfang Guo, Chaojie Gu, Yuting Wu, Qun Song, Zhenyu Yan, Rui Tan.

[ACM Sensys'21], *The 19th ACM Conference on Embedded Networked Sensor Systems (SenSys)*, November 15-17, 2021, Coimbra, Portugal

Paper Under Review

1. Indoor Smartphone SLAM with Learned Echoic Location Features.

Wenjie Luo, Qun Song, Zhenyu Yan, Rui Tan.

[ACM Sensys'22], *The 20th ACM Conference on Embedded Networked Sensor Systems (SenSys)*

Ongoing Research Work

1. Addressing device heterogeneity and orientation variations for an echo-based indoor localization system.

Lead authors: Hongtuo Nie, Wenjie Luo.

Work Experience

Micron Semiconductor Pte. Ltd, Singapore

2018 – 2019 Senior Engineer – Fab10 Yield Enhancement (YE)

2015 – 2018 Product Engineer – Non-Volatile Memory

Citibank N.A., Singapore

Jan – May 2014 Internship – Citibank N.A., Singapore

Innovations

- 1 UltraMTD: Resilient Mobile Vision via Ultra-Fast Dynamic Ensemble
[NTU Technical Disclosure] Rui Tan, Qun Song, Zhenyu Yan, **Wenjie Luo**.
- 2 EchoLoc: Infrastructure-Free Smartphone Indoor Localization Using Room Acoustic Responses
[NTU Technical Disclosure] Rui Tan, Dongfang Guo, **Wenjie Luo**.

Awards

- 2021 Best Artifact Runner-up. The 20th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN)
- 2015 Merit award in recognition of outstanding contribution to the University | sports category
- 2011 Merit-based full scholarship awarded by Singapore Ministry of Education

Teaching

AI6128: Urban Computing

Tutorial, Nanyang Technological University, 2021, 2022

CE3002: Sensors, Interfacing and Control

Tutor, Nanyang Technological University, 2021

CE3004: Multidisciplinary Design Project

Tutor, Nanyang Technological University, 2021

CZ4032: Data Analytics and Mining

Tutor, Nanyang Technological University, 2020

CE2003: Digital Systems Design

Tutor, Nanyang Technological University, 2020

Professional Services

(Co)-reviewer

IEEE/ACM Transactions on Networking (TON)

IEEE International Conference on Computer Communications (INFOCOM)

IEEE Transactions on Mobile Computing (TMC)