

WENQING YAN

12th May 1994, China

Uppsala, Sweden

+46 703447976

Webpage: wenqingyan.github.io
www.linkedin.com/in/wenqing-yan

I am always fascinated by research on mobile embedded system networked together wirelessly and consider myself being a creative scholar. I am passionate about exploring the interdisciplinary research area among Wireless Communication, Embedded System, Machine Learning and Security.

EDUCATION

Uppsala University	Sep. 2018 – Estimated Dec. 2023
Ph.D. candidate specialized in Wireless Communication and Networked Embedded Systems	Uppsala, Sweden
Awards: MobiSys'23 Best Demo, SenSys'21 Best Poster, SenSys'20 Best Poster, Best Ph.D. Forum Presentation N2Women Young Researcher Fellowship	
NUS (National University of Singapore) - Exchange	Apr. 2023
Exchange researcher to WEISER group led by Prof. Varshney	Singapore
KTH (Kungliga Tekniska högskolan)	Aug. 2016 – Sep. 2018
M.Sc. of Network Services and System (GPA 4.83/5.0)	Stockholm, Sweden
Awards: KTH One-Year Scholarship based on the excellent academic performance	
UCLA (University of California, Los Angeles) – Exchange	Jul. 2015 – Sep. 2015
Exchange student in Communication Department (GPA 5.0/5.0)	Los Angeles, USA
Beijing Jiaotong University	Aug. 2012 – Jun. 2016
Bachelor of Engineering, Communication Systems Engineering	Beijing, China
Awards: 3 Years University Scholarship	

PUBLICATION

Papers:

- [1] ORF: On-board Radiometric Fingerprinting Fully Integrated on an Embedded System [open source] In submission ICC
- [2] Decomposing Radiometric Fingerprints in Backscatter Systems In submission TMC
- [3] [TunnelLiFi: Bringing LiFi to Commodity Internet of Things Devices](#) HotMobile'23
- [4] [Judo: Addressing the Energy Asymmetry of Wireless Embedded Systems through Tunnel Diode based Wireless Transmitters](#) [open source] MobiSys'22
- [5] [RRF: A Robust Radiometric Fingerprint Authentication System that Embraces Wireless Channel Diversity](#) WiSec'22
- [6] [PHY-IDS: A Physical-layer Anomaly Detection System for Body Area Networks](#) WearSys@MobiSys'21
- [7] [Privacy-preserving Continuous Tumour Relapse Monitoring Using In-body Radio Signals](#) SafeThings@S&P'21
- [8] [Predicting Round-Trip Time Distributions in IoT Systems using Histogram Estimators](#) NOMS'20
- [9] [Machine-Learning Based Active Measurement Proxy for IoT Systems](#) IM'19

Posters:

- [10] [Enabling L3: low cost, low complexity and low power radio frequency sensing using tunnel diodes](#) MobiCom'23
- [11] [Identifying Bluetooth Low Energy Devices](#) SenSys'21 – Best Poster
- [12] [Sensitivity of radiometric fingerprint against wireless channel: poster abstract](#) SenSys'20 – Best Poster
- [13] [Towards robust and low-complexity radiometric fingerprint: PhD forum abstract](#) SenSys'20 – Best Presentation
- [14] [Towards secure backscatter-based in-body sensor networks: poster abstract](#) SenSys'20

Demos:

- [15] [An Educational Platform to Learn Radio Frequency Wireless Communication](#) [open source] MobiSys'23 – Best Demo

Conference Notes:

MobiSys: International Conference on Mobile Systems, Applications and Services

SenSys: ACM Conference on Embedded Networked Sensor

MobiCom: International Conference on Mobile Computing and

WiSec: ACM Conference on Security and Privacy in Wireless and Mobile Networks

TMC: IEEE Transactions on Mobile Computing

ICC: IEEE International Conference on Communication

HotMobile: International Workshop on Mobile Computing Systems and Applications

PROJECTS

Judo: Addressing the Energy Asymmetry of Wireless Embedded Systems [3][4]

Low-power transmitter architecture design using tunnel diode

Designed a novel transmitter architecture that leverages the unique properties of tunnel diodes to minimize power consumption while maintaining high communication performance.

RRF: Robust and Low-complexity Radiometric Fingerprinting System [5]

Physical-layer Devices Authentication and Identification

Radiometric fingerprinting leverages the imperfection in transmitter electronics to identify the device. This project aimed to improve the fingerprinting robustness towards dynamic and complex channel conditions.

Fingerprint Backscatter Systems [2]

Radiometric Fingerprinting System Design for Backscatter Systems

Backscatter is a low-power communication technology. This project aims to design a RF fingerprinting system tailored for backscatter communication technology, which can identify both the emitter and tag.

ORF: On-board Low-complexity Radiometric Fingerprinting System [1]

Radiometric Fingerprinting Implementation on Constrained Devices

Deployed the fingerprinting system on a single commercial off-the-shelf SoC.

Machine Learning for Enabling Active Measurements in IoT Environment [8,9]

Network measurement and management – Master Thesis in Ericsson Research

Aimed at developing a prediction model for achieving network analytics and management in IoT environments.

COMPUTER - SKILLS

- Programming Language: Python, Matlab, C/C++
- Machine Learning Library: Scikit-learn, Keras, MxNet, TensorFlow
- Embedded Operating System: Contiki-ng, TinyOS,
- RF Testing Instruments: Software-defined radio, Spectrum Analyzer, Vector Network analyzer, Signal generator
- Radio Technology: IEEE 802.15.4, BLE
- Other: GNU Radio, Wireshark, Linux server, LaTeX, Photoshop, Procreate

PROFESSIONAL REFERENCES

[Thiemo Voigt](#)

Job Title: Professor

RISE, Uppsala University, Sweden

e-mail: thiemo.voigt@ri.se

[Ambuj Varshney](#)

Job Title: Assistant Professor

National University of Singapore

e-mail: ambujv@nus.edu.sg

[Christian Rohner](#)

Job Title: Professor

Uppsala University, Sweden

e-mail: christian.rohner@it.uu.se