WENQING YAN

12th May 1994, China

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I am always fascinated by wireless research and dream of being a creative scholar. In the past three-year Ph.D. study, I am passionate about exploring the interdisciplinary research area among Wireless, Security and Machine Learning. My current journey of discovery revolves around the intersection field, which relies on the knowledge of communication, signal processing and computational learning theory.

EDUCATION

Uppsala University Sep. 2018 – Estimated Sep. 2023

Ph.D. candidate specialized in Wireless Sensor Network Security Uppsala, Sweden

SenSys 20′ Best Poster, Best Ph.D. Forum Presentation

Relevant Courses: Sequential Monte Carlo methods (Thomas Schön),
Fundamentals of Machine Learning over Network (FEP3260) etc.

KTH (Kungliga Tekniska högskolan) Aug. 2016 – Sep. 2018

M.Sc. of Network Services and System (GPA 4.83/5.0) Stockholm, Sweden

KTH One-Year Scholarship based on the excellent academic performance

Relevant Courses: Internetworking(EP2120), Network Security(EP2500), Wireless Network(EP2950),
Wireless Transmission Techniques(IK2508), Machine learning(DD2421),
Management of Networks and Networked Systems(EP2300) etc.

University of California, Los Angeles 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

3 Years University Scholarship

Relevant Courses: Principles of Communication Systems, Signal Processing and Digital Transmission etc.

PROJECTS

Robust and Low-complexity Radiometric Fingerprint

Devices Authentication and Identification for Constrained Devices – 2nd Project of Ph.D. Research

Aims at improving the robustness of Radio Frequency (RF) fingerprinting system. RF signatures based on the imperfection in electronic transmission circuits have been proved feasible to identify wireless devices. Nonetheless, the robustness towards dynamic and complex channel conditions is still a puzzle need to be solved.

- Systematically and experimentally study the impact of wireless channels on RF fingerprint accuracy.
- Identify the most influential factors, and design robust learning algorithm to increase the identification reliability.

Physical Layer Intrusion Detection System for Wearable Devices

Security for Body Area Network – 1st Project of Ph.D. Research

Track wireless signal strength time series, identify patterns and detect abnormal behavior.

- Collect data from wearable sensor testbed focusing on human walking posture.
- Build tracking and prediction models for the physical-layer metrics time series of wireless signal.
- Using outlier detection algorithms to distinguish abnormal behavior coming from illegal devices.

Machine Learning for Enabling Active Measurements in IoT Environment January – September 2018

Management of Networks and Networked Systems – Master Thesis in Ericsson Research Stockholm, Sweden

Build prediction model to achieve network analytics and management in IoT environment.

- Collect data from IoT testbed, build the data processing pipeline, extract meaningful features.
- Based on the statistical analysis results, seek for suitable machine learning algorithms to build prediction models.
- Leverage both offline and online learning models to achieve network performance prediction and management.

PUBLICATION

Paper:

PHY-IDS: A Physical-layer Anomaly Detection System for Body Area Networks	WearSys@MobiSys
Privacy-preserving Continuous Tumour Relapse Monitoring Using In-body Radio Signals	SafeThings@S&P
Predicting Round-Trip Time Distributions in IoT Systems using Histogram Estimators	NOMS´20
Machine-Learning Based Active Measurement Proxy for IoT Systems	IM´19

Poster:

Sensitivity of radiometric fingerprint against wireless channel: poster abstract	SenSys´20
Towards robust and low-complexity radiometric fingerprint: PhD forum abstract	SenSys´20
Towards secure backscatter-based in-body sensor networks: poster abstract	SenSys´20

INTERNSHIP

Baidu Inc. CBSD (Corporate Business Supervision Department) October 2015 – April 2016

One of the largest Internet companies in the world, which offers various service, including a famous Chinese search engine for websites, audio files, and images

- Collected infringing user behavior features and analyzed data from the perspective of risk control.
- Worked with team to explore the demands of automatic supervision system and design a system framework.
- Participated in the testing work of final products; proposed suggestions and opinions.

Beijing ZTE-CE Technology CO., Ltd. March 2016 – April 2016

One of the largest Chinese multinational telecommunication equipment and system company

- Completed the practice courses of LTE test, OTN (Optical Transport Network) test, PTN (Packet Transport Network) test and Data Communication; analyzed several company internal network structures.
- Achieved the honor of excellent intern with a good presentation of system function analysis.

COMPUTER - SKILLS

- Programming language: Python, C, Matlab
- Machine Learning Library: Sciki-learn, Keras, MxNet, TensorFlow
- Embedded Operating System: Contiki-ng, TinyOS
- Operating system: Linux, MacOS, Windows
- Database: MySQL, MariaDB
- Other: Wireshark, Linux server, Microsoft Office, LaTeX, Photoshop, Procreate

LANGUAGE - SKILLS

English: Advanced in both written and spoken

Chinese: Mother tongue

Swedish: Beginner

PROFESSIONAL REFERENCES

Thiemo Voigt
Job Title: Professor
RISE, Uppsala University, Sweden
e-mail: thiemo.voigt@ri.se

Christian Rohner
Job Title: Professor
Uppsala University, Sweden
e-mail: Christian.rohner@it.uu.se

Ambuj Varshney
Job Title: Postdoctoral Research
University of California Berkeley
e-mail: ambujv@berkeley.edu