Do Hai Son

Date of birth: 28/08/1998
Gender: Male
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Address: Ha Noi, Viet Nam

Research interests

Cyber Security, Blockchain Technology, Wireless Communications, System Identification, IoT/IIoT System.

Education

2020 – Present
VNU University of Engineering and Technology – Ha Noi, Viet Nam
Master student in Telecommunications Engineering
GPA: 3.88/4.0.

2016 – 2020
VNU University of Engineering and Technology – Ha Noi, Viet Nam
BSc degree in Electronics and Communications Engineering

Employment experience

Aug 2020 – Present
Advanced Institute of Engineering and Technology (AVITECH), VNU University of Engineering and Technolog – Ha Noi, Viet Nam
Role: Researcher

Sep 2022 – Dec 2022
PRISME Laboratory, École polytechnique de l'université d'Orléans (Polytech Orléans), France
Role: Internship student

Research experience

Jun 2020 – Present
System identification: from blind to informed paradigm
Responsibility: We aim to develop an "InfoSysID Toolbox" which provides a set of tools to analyse, evaluate and design complicated systems, specially in wireless communication.

Jul 2021 – Present
Channel estimation using side information for massive MIMO systems
Responsibility: We consider the antenna structures of massive MIMO and integrate side information (e.g., DoA, DoD) to enhance the performance channel of estimation algorithms.

Jun 2020 – Nov 2022
Cyber-attack detection and information security in Industry 4.0
Responsibility: We aim to provide tools to enhance cyber-security in Industry 4.0, i.e., blockchain-based Smart Grid, collaborative learning for cyberattacks detection.

Oct 2019 – Jun 2020
Direction of Arrival on SDR
Responsibility: We implemented MUSIC algorithm on GNU Radio and SDR devices, i.e., bladeRFx115).

Mar 2019 – Oct 2019
WiFi Map Indoor Positioning System
Responsibility: We focused on analyzing RSSI data using traditional machine learning methods (i.e., SVM). We then deployed and verified in a robot using Arduino KIT.

Teaching experience

Sep-Dec/2021
Teaching assistant, ELT 3243: Principles of Communication (VNU University of Engineering and Technology)

Jul-Aug/2021
Teaching assistant, ELT 2035: Signals and systems (VNU University of Engineering and Technology)

Jan-Jun/2021
Teaching assistant, ELT 3144: Digital Signal Processing (VNU University of Engineering and Technology)

Publications

2023
[C1] **Do Hai Son** and Tran Thi Thuy Quynh, "Impact Analysis of Antenna Array Geometry on Performance of Semi-blind Structured Channel Estimation for massive MIMO-OFDM systems," in *IEEE Statistical Signal Processing Workshop (SSP)*, Hanoi, Vietnam, pp. 1-5, 2023.

[C2] Tran Viet Khoa, **Do Hai Son**, Dinh Thai Hoang, Nguyen Linh Trung, Tran Thi Thuy Quynh, Diep N. Nguyen, Nguyen Viet Ha, and Eryk Dutkiewicz, "Collaborative Cyberattack Detection Model in Blockchain Networks," in *IEEE Global Communications Conference: Communication & Information Systems Security (Globecom 2023 CISS)*, pp. 1-6, 2023, (submitted)

2022 [J1] Tran Viet Khoa, **Do Hai Son**, Dinh Thai Hoang, Nguyen Linh Trung, Tran Thi Thuy Quynh, Diep N. Nguyen, Nguyen Viet Ha, Eryk Dutkiewicz, "Collaborative Learning for Cyberattack Detection in Blockchain Networks," *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, pp. 1–12, Sept. 2022. (submitted), https://arxiv.org/abs/2203.11076

[J2] Bui Minh Tuan, Tran Viet Khoa, **Do Hai Son**, Nguyen Linh Trung, Tran Thi Thuy Quynh, Nguyen Ngoc Hoa, and Nguyen Viet Ha, "A New Framework for Cyber Risk Assessment for Industry 4.0 and Recommendations for Vietnam," *REV Journal on Electronics and Communication*, pp. 1-16, Aug. 2022. (submitted)

2021 [C1] **Do Hai Son**, Tran Thi Thuy Quynh, Tran Viet Khoa, Dinh Thai Hoang, Nguyen Linh Trung, Nguyen Viet Ha, Dusit Niyato, Diep N. Nguyen, and Eryk Dutkiewicz, "An effective framework of private Ethereum blockchain network for smart grid," in *2021 International Conference on Advanced Technologies for Communications (ATC)*, Ho Chi Minh City, Viet Nam, 2021. [Best Paper Award]

[C2] **Do Hai Son**, Tran Thi Thuy Quynh, "Synchronize multi-SDRs to implement DoA system," in *The 24th National Conference on Electronics, Communications and information Technology*, Ha Noi, Viet Nam, 2021.

2019 [C1] **Do Hai Son**, Tran Duc Manh, and Tran Thi Thuy Quynh, "WiFi Maps Indoor Positioning System," in *The 22nd National Conference on Electronics, Communications and information Technology*, Ha Noi, Viet Nam, 2019.

Honors and scholarships

2021 Best Student Paper Award of 2021 International Conference on Advanced Technologies for Communications (ATC).

2020 Excellent Thesis Award (VNU University of Engineering and Technology)
Awarded to the best undergraduate theses from the school.

2019 Certificate of merit for excellent student awarded (VNU University of Engineering and Technology)

2019 Scholarship for the excellent student awarded (VNU University of Engineering and Technology)
Awarded to top 5 students from the class.

Technical skills

Programming languages
Proficient in: C/C++, Python, Matlab, Javascript, Solidity
Familiar with: C#, Go

Hardware
Software Define Radio (SDR), IoT Gateway Home/Industrial, Jetson/BeagleBone/Arduino/ESP8266, IoT sensors

Languages

English: 2023 VSTEP certificate (7.0/10.0).