CHI NGUYEN

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Summary

Ph.D. graduate student with engineering and research experience interested in AI, data science, and telecommunications.
Languages: Python, MATLAB, SQL, Arduino, Latex, OriginLab
Developer Tools: Git, Google Cloud Platform, VS Code, Azure Data Studio
Libraries: Pandas, NumPy, Matplotlib, Scikilearn, Tensorflow, Pytorch

Research interest

Deep learning | Reinforcement learning | Explainable machine learning | NLP | Text Similarity | Recommendation System | 5G/6G | Digital Twin | Blockchain

Experience

Faculty of Computing, Engineering and Built Environment, UU Sep 2019 – Present
Ph.D., Research Assistant
Project: Deep learning for radio propagation in future wireless networks - Funded by UU and UKRI
Supervisor: Dr.Adnan Ahmad Cheema

- Investigated in data related to **radio propagation in 5G/6G** including Large-scale Fading, Channel Estimation, and Radio-Frequency Electromagnetic Field Exposure (RF-EMF).
- Proposed **deep learning models** for problems of **prediction** and **time-series forecasting**, including path loss prediction, NOMA/RIS channel estimation, and RF-EMF time series forecasting - Contributed to 3 journals.

  Skills: Git, Tensorflow, Scikitlearn, Data Analysis, Visualization, deploy Deep Learning models (i.e. Clustering, DNN, CNN, LSTM, CNN-LSTM, Transformer, etc), Optuna, Algebra

Research Team, Mälardalen University, Sweden Jul 2017 – Aug 2019
Research Assistant *Remote*
Project: Physical layer security for 5G-based NOMA wireless network
Supervisor: Dr.Hung Tran

- Investigated in security performance and fairness of a 5G-based NOMA system
- Proposed a proactive attack scheme to improve secrecy performance of cooperative NOMA system - Contributed to 1 conference and 1 journal.

  Skills: Statistical and Probability, Network Security

Wi-com Lab, HUST Jun 2016 – Jul 2017
Research Assistant
Project: Noise modeling for underwater communication systems
Supervisor: Associate Pro. Duc Van Nguyen

- Applied statistical methods to model the measured noise in a shallow underwater environment in Vietnam - Contributed to 2 international conferences.
- Involved in the application of a grant for sound navigation ranging (SONAR) project funded by NAFOSTED

  Skills: Measurement, Signal Processing, Signal Modeling

Courses

- Recommender Systems and Deep Learning in Python, Udemy
- Machine Learning: Natural Language Processing in Python, Udemy

Publications

Journals

- **Nguyen, C.**, and Cheema, A.A., (2022). Deep learning for time series forecasting of RF-EMF in wireless network, *ready to submit to IEEE Access*
- **Nguyen, C.**, Tiep. M.H., and Cheema, A.A., (2022). Channel Estimation Using CNN-LSTM in RIS-NOMA Assisted 6G Network, *under consideration of IEEE Transactions on Machine Learning in Communications and Networking*
- **Nguyen, C.**, and Cheema, A.A., (2021). A deep neural network-based multi-frequency path loss prediction model from 0.8 GHz to 70 GHz. Sensors, 21(15), p.5100
- Huu, T. P., Thi-Thanh, T. N., **Nguyen-Yen, C.**, Tran, H., and Dinh, V. N., (2020). Secrecy Outage Probability and Fairness of Packet Transmission Time in a NOMA System, IEEE Access, 8, 79637-79649

Conferences/Presentations

- **Nguyen, C. Y.**, Tran, H. V., Ninh, T. T. T., Xuan, T. Q., and Pham, Q. H. (2019). Security Enhancement in NOMA Cooperative Network with a Proactive Attack Scheme, in 12^{th} International Conference on Advanced Technologies for Communications, ATC 2019, Hanoi, Viet Nam, 17-19 October 2019 (pp. 225-230), IEEE Computer Society.
- **C. Y. Nguyen**, H. V. Do, D. V. Nguyen and H. A. Muzamane, Underwater ambient noise model and verification in the underwater OFDM system, Proceedings of KICS-IEEE International Conference Information and Communications with Samsung LTE, pp. 233-239, Jun. 2017.

Teaching Experience

Faculty of Computing, Engineering and Built Environment, UU Sep 2019 - Present

Teaching Assistant

- **Courses**: Embedded system, Asics and Digital Design, Electronic Design Automation
- **Tasks**: Support classes of 50 students working on LAB (Arduino, ASIC design, Altium Designer)

Faculty of Electrical-Electronics Engineering, UTC Jan 2012 - Aug 2019

Lecturer

- **Courses**: Optical Fiber Communications, Microwave Engineering, Fundamental of digital communication, Computer Network.
- **Tasks**: Design Modules, Projects, Course Works, Exams and Mark

Education

University of Ulster (UU) United Kingdom
Ph.D. in Telecommunication Engineering *Sep. 2019 - present*

Hanoi University of Science and Technology (HUST) Vietnam
M.S in Telecommunication Engineering *Sep. 2014 - Oct 2016*

University of Transport and Communications (UTC) Vietnam
B.S Electronics Telecommunications Engineering *Sep. 2006 - Oct 2011*

Honors and Awards

- Vice-Chancellor's International Scholarship for Ph.D. student, UK, Sep 2019
- Japan-East Asia Network of Exchange for Students and Youths, Jan 2015

Professional References

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