Ngoc Chau Hoang

My Website | @ hoangngocchau2k@gmail.com

Education

Hanoi University of Science and Technology Dec. 2022 – Dec. 2024
M.Sc. in Control Engineering and Automation

Hanoi University of Science and Technology Aug. 2018 – Sep. 2022
B.Sc. in Control Engineering and Automation (Talent Program)

Experience

Viettel AI - Viettel Group May. 2025 – Now
AI Engineer

- Supervisor: Dr. Van Hai Do
- Leading a research project on code-switching automatic speech recognition, especially the spontaneous out-of-vocabulary problem.
- Developing multiple speech processing front-end systems for smart speaker products such as wakeword detection, speech separation and enhancement, acoustic echo cancellation. Work is currently under revision in TASLP.

Sensor Lab - Hanoi University of Science and Technology Sep. 2021 – May. 2025
Research Assistant

- Supervisor: Assoc. Prof. Quoc Cuong Nguyen, Assoc. Prof. Minh Thuy Le
- Developing novel methods in speech enhancement to restore and improve the send speech signal quality from a degraded mixture using signals captured from single or multiple microphones. Work resulted in publications in International Journal of Advanced Computer Science and Applications (IJACSA), IEEE/ACM Transactions on Audio, Speech, and Language Processing (TASLP), Applied Acoustics (APAC), and a full-regular paper at IEEE Tenth International Conference on Communications and Electronics (ICCE).
- Leading a research project on an mmWave-based human activity recognition (HAR) system capable of distinguishing the direction of body part movements and recognizing activities performed along arbitrary trajectories (work resulted in a publication in Measurement journal); Contributing to a review paper on HAR with FMCW radar (currently under revision in IEEE Sensors Journal).

Publications

Ngoc Chau Hoang, Tien Dat Bui, Huu Binh Nguyen, Thanh TH Duong, and Quoc Cuong Nguyen. "A Novel Approach To Multi-channel Speech Enhancement Based On Graph Neural Networks." ***IEEE/ACM Transactions on Audio, Speech, and Language Processing (2024)***.

Ngoc Chau Hoang, Thi Nhat Linh Nguyen, Tuan Kiet Doan, and Quoc Cuong Nguyen. "Multi-stage temporal representation learning via global and local perspectives for real-time speech enhancement." ***Applied Acoustics (2024)***.

Van Ngoc Dang, **Ngoc Chau Hoang**, Quoc Cuong Nguyen, and Minh Thuy Le. "Advancing Robust Human Activity Recognition via Informative mmWave Radar Characteristics and a Lightweight Spatio-Spectro-Temporal Network." ***Measurement (2025)***.

Ngoc Thuan Tran, **Ngoc Chau Hoang**, and Quoc Cuong Nguyen. "Speaker-agnostic U-shaped Diarization with Speaker Extraction-guided Enhancement." under first revision round in ***TASLP***.

Van Ngoc Dang, **Ngoc Chau Hoang**, Minh Thuy Le, Kien Nguyen, and Quoc Cuong Nguyen. "Deep Learning-based Human Activity Recognition with FMCW Radar: A Review." under first revision round in ***IEEE Sensors Journal***.

Ngoc Chau Hoang, Thi Anh Xuan Tran, and Quoc Cuong Nguyen. "DConvT: Deep Convolution-Transformer Network Utilizing Multi-Scale Temporal Attention for Speech Enhancement." ***2024 IEEE tenth international conference on communications and electronics (ICCE). IEEE, 2024***.

Tuan Kiet Doan*, Thi Nhat Linh Nguyen*, **Ngoc Chau Hoang**, Minh Thuy Le, and Quoc Cuong Nguyen. "Intelligent passive infrared sensor based on learning vector quantization for human detection." ***Engineering Research Express (2024)***.

Nguyen, Huu Binh, Duong Van Hai, Tien Dat Bui, **Ngoc Chau Hoang**, and Quoc Cuong Nguyen. "Multi-channel speech enhancement using a minimum variance distortionless response beamformer based on graph convolutional network." ***International Journal of Advanced Computer Science and Applications (2022)***.

Skills

Programming: Python, Pytorch, Tensorflow, C/C++, MATLAB

Language: Vietnamese (Native), English (IELTS: 7.5)

Awards and Service

Graduate Scholarship: Awarded to outstanding graduate students, 2024

Study Encouragement Scholarship: Awarded to top 2% excellent students out of a total of more than 30,000 undergraduate students by Hanoi University of Science and Technology. (Fall'20, Spring'21, Fall'21)

Reviewer for Journal: Machine Learning: Science and Technology (MLST)

Miscellaneous

- Supervised a team of undergraduate students, leading them to win the second prize at Hanoi University of Science and Technology's annual research conference and publish a paper in the Engineering Research Express journal.
- Advised two bachelor's thesis students in one semester; both received Best Thesis Awards (an honor given to only 5 out of approximately 100 theses)