

# Ngoc Chau Hoang

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## EDUCATION

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**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

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**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 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.

## PUBLICATIONS

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**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. “Speaker-agnostic U-shaped Diarization with Speaker Extraction-guided Enhancement.” under review in *TASLP*.

**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

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

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

## AWARDS AND SERVICE

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**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

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- 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)