

# THANH VAN TRONG TRAN

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## EXPERIENCE

### AI Resident & AI Research Engineer

FPT Software — *largest IT services company in Southeast Asia*

Aug 2023 - Present

Hanoi, Vietnam

- Conducted research in multimodal AI, speech/audio AI, and generative models, with publications at ICASSP 2025 and Interspeech 2025.
- Conducted research on improving protein characteristics on sequence-level, leading to a series of three accepted papers at two Q1 journals (IF 12 and 6.2) and one A\* conference.
- Advisors: **Assistant Prof. Truong-Son Hy** and **Dr. Van Nguyen**.

### Student Researcher

Institute for Artificial Intelligence

Sep 2022 - May 2023

VNU University of Engineering and Technology, Hanoi

- Built and made open-source the error analysis tool for multi-target multi-camera tracking system ([GitHub](#)).
- Developed graph neural network-based solution for re-identification problem in multi-target multi-camera tracking system.
- Advisor: **Dr. Long Quoc Tran**.

### Speech Processing Intern

VinBigData — *Conversational AI solutions* (now VinSmart Future)

Oct 2021 - Nov 2022

Hanoi, Vietnam

- Designed a telephony-speech augmentation pipeline that reduced ASR WER by 25% on production benchmarks.
- Developed a neural decoder that outperforms vanilla beam search by 10%.
- Delivered a low-latency streaming ASR ( $\approx 70\text{ms}$  end-to-end, 12% WER on in-house dataset) for automotive deployment.
- Maintained and developed company's in-house speech recognition framework.

## EDUCATION

**Bachelor of Computer Science**, VNU University of Engineering and Technology

*Top 10% of the entire graduating cohort — GPA: 3.71/4.0*

Aug 2019 - Jun 2023

## PUBLICATIONS

(\*) Equal contribution

### Conference Papers

**Speech Reconstruction from Silent Videos via Acoustic-Semantic Decomposed Modeling** | [Link](#)

Long-Khanh Pham, **Thanh V. T. Tran**, Minh-Tan Pham, Van Nguyen.

Interspeech 2025.

**Effective Context Modeling Framework for Emotion Recognition in Conversations** | [Link](#)

Cuong Tran Van\*, **Thanh V. T. Tran**\*, Van Nguyen, Truong Son Hy.

ICASSP 2025.

**GROOT: Effective Design of Biological Sequences with Limited Experimental Data** | [Link](#)

**Thanh V. T. Tran**\*, Nhat Khang Ngo\*, Viet Anh Nguyen, Truong Son Hy.

KDD 2025.

### Journal Papers

**Latent-based Directed Evolution accelerated by Gradient Ascent for Protein Sequence Design** | [Link](#)

**Thanh V. T. Tran**, Nhat Khang Ngo, Viet Thanh Duy Nguyen, Truong Son Hy.

Machine Learning: Science and Technology.

**Protein Design by Directed Evolution guided by Large Language Models** | [Link](#)

**Thanh V. T. Tran**, Truong Son Hy.

IEEE Transactions on Evolutionary Computation.

Under Submission

**Precise Video-to-Audio Generation with Cross-Modal Alignment in Latent Space**  
Thanh V. T. Tran, Ngoc-Son Nguyen, Luong Tran, Long-Khanh Pham, Paarth Neekhara, Shehzeen Hussain, Van Nguyen.

**DiFlowDubber: Discrete Flow Matching for Automated Video Dubbing via Cross-Modal Alignment and Synchronization**  
Ngoc-Son Nguyen, Thanh V. T. Tran, Jeongsoo Choi, Hieu-Nghia Huynh-Nguyen, Truong-Son Hy, Van Nguyen.

**DiFlow-TTS: Compact and Low-Latency Zero-Shot Text-to-Speech with Factorized Discrete Flow Matching**  
Ngoc-Son Nguyen, Thanh V. T. Tran, Hieu-Nghia Huynh-Nguyen, Truong Son Hy, Van Nguyen.

**AgentSound: A LLM-Driven Multi-Agent Framework for Augmenting Sounds with Semantic Context Guidance**  
Van Truong Hoang, Viet Pham, Thanh V. T. Tran, Van Nguyen, Harry Nguyen.

PRESENTATIONS

Oral paper presentation, KDD 2025 Toronto, Canada

ACHIEVEMENTS

- Top 2 in Automatic Speech Recognition - Task 1 of VLSP 2022 competition ([Certificate](#)).
- Top 3 in Automatic Speech Recognition - Task 2 of VLSP 2022 competition ([Certificate](#)).
- Third prize in Scientific Research Contest for College Students ([Certificate](#)).
- UET Merit Scholarship (8 semesters) - VNU University of Engineering and Technology.

TECHNICAL SKILLS

Programming	Python, Bash, C/C++, L <sup>A</sup> T <sub>E</sub> X, Java, SQL, JavaScript, HTML/CSS.
Libraries	PyTorch, TensorFlow, Scikit-learn.
Developer Tools	Jupyter, Git, Linux, Docker, MongoDB.

LANGUAGES

Vietnamese	Native
English	Advanced (IELTS 7.5)

REFERENCES

- Assistant Prof. [Truong-Son Hy](#) - The University of Alabama at Birmingham, United States.
- Dr. [Van Nguyen](#) - FPT Software, United States.
- Dr. [Long Quoc Tran](#) - Institute for Artificial Intelligence, UET, Vietnam.