

NHAT LE

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EDUCATION

Bachelor of Science (Honours) in Information Technology
University of Science, VNU-HCMC, Vietnam

Aug. 2017 - Aug. 2021
GPA 8.85/10

PUBLICATIONS

* indicates equal contribution

1. **Nhat Le**, Thang Pham, Tuong Do, Erman Tjiputra, Quang Tran, Anh Nguyen. Music-Driven Group Choreography. In *Proceedings of the IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2023*. (Core Ranking: A*)
2. **Nhat Le***, Khanh Nguyen*, Quang Tran, Erman Tjiputra, Bac Le, Anh Nguyen. Uncertainty-aware Label Distribution Learning for Facial Expression Recognition. In *Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2023*. (Core Ranking: A)
3. **Nhat Le**, Khanh Nguyen, Anh Nguyen, Bac Le. Global-local attention for emotion recognition. *Neural Computing and Applications, 2022*. (Journal article, IF: 5.6, Q1)

EXPERIENCE

AI Researcher

AIOZ Singapore

Oct. 2021 - Present

- AI Avatar: developing methods for generating audio-driven 2D talking face, reconstructing and visualizing the 3D head animations.
- Dancing into Metaverse: building a large-scale 3D group dance database, designing techniques for high-quality automatic group dance creation from music.

Teaching Assistant

University of Science, VNU-HCMC

Sept. 2021 - Feb. 2022

- Preparing and grading assignments.
- Providing tutorials and discussions to students in the course.
- Courses: Introduction to Artificial Intelligence, Introduction to Data Science, Data Mining and Applications.

Research Intern

Department of Computer Science, University of Science, VNU-HCMC

Jun. 2020 - Sep. 2020

- Assisting in collecting data from classroom cameras in the university to analyze the attitude and emotions of the students towards the lectures.
- Exploring several approaches and conducting a literature review on human emotion recognition.

PROJECTS

Thesis: Deep Learning for Image-based Emotion Recognition in the Wild

Thesis (Grade: 10/10), Supervisor(s): Prof. Bac Le, Asst. Prof. Anh Nguyen

Jan. 2021 - Jul. 2021

- We focus on two key aspects of human face emotion recognition in the wild: handling the ambiguity of facial expressions, and recognizing the emotion under the surrounding context information.

- Published papers: Uncertainty-aware Label Distribution Learning for Facial Expression Recognition (WACV 2023, first round accepted), Global-local attention for emotion recognition (Neural Computing and Applications).

Controllable Group Choreography using Contrastive Diffusion

Jan. 2023 - Present

Research, In submission to SIGGRAPH ASIA (ACM Transactions on Graphics track)

- We develop a Contrastive Diffusion strategy, which is based on diffusion probabilistic generative model and contrastive learning, to generate high-fidelity and diverse group dance animations.
- We develop a method to trade-off between the consistency and diversity of generated group motions by intervening in the diffusion sampling process.
- Our framework is flexible, can synthesize long-term motions while maintaining coherency, and allows users to combine and edit various generated sequences.

Music-Driven Group Choreography

Mar. 2022 - Nov. 2022

Research, Supervisor(s): Asst. Prof. Anh Nguyen

- We develop a semi-automatic method to reconstruct high-fidelity multi-person motions from in-the-wild videos and create a large-scale group dance dataset.
- We propose the first strong baseline for group dance synthesis task, which aims to capture both the temporal dynamics of individual motion and the relationship of dancers via new cross-entity attention and spacial encoding scheme.
- Published paper: Music-Driven Group Choreography (CVPR 2023)

Label Distribution Learning with Valence-Arousal for Facial Expression Recognition

Jan. 2021 - Jul. 2021

Research, Supervisor(s): Prof. Bac Le, Asst. Prof. Anh Nguyen

- We propose a new framework based on Label Distribution Learning to address label ambiguity and inconsistency in most existing facial expression recognition datasets.
- Our method constructs emotion distributions from the provided single label along with the learnable uncertainty, to augment the training process and improve the performance and robustness of the model against label noise and ambiguity.

Global-Local Attention for Emotion Recognition

Jul. 2020 - Dec. 2020

Research, Supervisor(s): Prof. Bac Le, Asst. Prof. Anh Nguyen

- We aim to solve human emotion recognition problem in unconstrained real-world scenarios with contextual information.
- We design a new cross-attention mechanism that captures the relationship between facial emotion and surrounding background, to help the model focus better on salient regions.

SKILLS

Programing Language	Python (proficient), Java/C++ (previous experience)
Frameworks	Pytorch, Tensorflow, OpenCV, Pandas, Numpy, Hugging Face, SciPy
Artificial Intelligence	Computer Vision, Computer Graphics, Machine Learning, Deep Learning