

Thanh-Tin Nguyen - AI Researcher

Contact Information

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Research Interest

- **Multimodal Large Language Models (MLLMs)**: Make LLMs more explainable.
 - **Robustness and Explainable AI**: Make AI models more robust and transparent to the users.
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Education

- Auburn University**, Alabama, USA. August. 2022 - Present
- **Graduate Teaching Assistant** in Computer Science and Software Engineering.
 - **Research** in Robust & Explainable AI.
 - **Advisor**: Prof. Anh Nguyen.
- Sejong University**, Seoul, Korea. Sep. 2020 - August. 2022
- **M.Sc.** in Computer Science and Engineering.
 - **Thesis**: *Fusion Networks for Language Grounding in Navigation Task*.
 - **Advisor**: Prof. Kim Yong Guk.
- Ho Chi Minh University of Science**, Ho Chi Minh, Vietnam. Sep. 2015 - August. 2019
- **B.A.** in Computer Vision and Robotics.
 - **Thesis**: *A New Framework of Moving Object Tracking based on Object Detection - Tracking with Removal of Moving Features using Stereo Camera and IMU*.
 - **Advisor**: Prof. Ly Quoc Ngoc.
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Technical Skills

- **AI**: Computer Vision, NLP, Deep Learning, Large Language Models.
 - C/C++, Python, PyTorch, Tensorflow
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Work Experience

- **AI Engineer** May. 2019 - May. 2020
AIOZ Company, Ho Chi Minh City, Vietnam.
Implementations for various projects such as:
 - Instance Segmentation to detect staff in a store.
 - Face Recognition to re-identify customers of a store.
 - License Plate Recognition for a car parking.
 - **AI Engineer Intern** Mar. 2018 - Mar. 2019
Gumi Company, Vietnam.
 - Line Segmentation for handwritten text.
 - Optical Character Recognition (OCR) for Japanese bills and documents.
 - **Game Programmer Intern** Jun. 2017 - Oct. 2018
Gameloft Company, Vietnam.
I was a game developer intern here. Doing an arcade game using Cocos-2dx.
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Conference (Selected)

1. **Minh Thang Pham, Peijie Chen, Thanh-Tin Nguyen, Seunghyun Yoon, Trung Bui, Anh Nguyen**. “Part-based image classifiers with an explainable, editable language bottleneck”. *North American Chapter of the Association for Computational Linguistics (NAACL)*, 2024. [\[Paper\]](#)[\[Code\]](#)
 2. [\[Under Review\]](#) **Thanh Tin Nguyen, Anh Nguyen**. “How does “habitat” help fine-grained bird identification”. *Arxiv*, 2024. [\[Paper\]](#)[\[Video\]](#)
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Journals (Selected)

1. **Nguyen Thanh Tin, Marvin John, Hulin Jin, Yong-Guk Kim**. “Meme Analysis using LLM-based Contextual Information and U-net Encapsulated Transformer”. *IEEE Access*, 2024. [\[Paper\]](#)[\[Code\]](#)

2. Thanh-Tin Nguyen, Anh H. Vo, Soo-Mi Choi, Kim Yong Guk. “Coarse-To-Fine Fusion for Language Grounding in 3D Navigation”. *Knowledge-based Systems (KBS)*, 2023. [\[Paper\]](#)[\[Video\]](#)
3. Long H. Nguyen, Nhat Truong Pham, Van Huong Do, Liu Tai Nguyen, Thanh-Tin Nguyen, Van Dung Do, Hai Nguyen, Ngoc Duy Nguyen. “Fruit-CoV: An Efficient Vision-based Framework for Speedy Detection and Diagnosis of SARS-CoV-2 Infections Through Recorded Cough Sounds”. *Expert Systems with Applications (ESWA)*, 2021. [\[Paper\]](#)
4. Thanh-Tin Nguyen, Ly Quoc Ngoc, , Le Bao Tuan, “A New Framework of Moving Object Tracking based on Object Detection-Tracking with Removal of Moving Features using Stereo Camera and IMU”. *International Journal of Advanced Computer Science and Applications (IJACSA)*, 2020. [\[Paper\]](#)[\[Video 1\]](#)[\[Video 2\]](#)[\[Video 3\]](#)

Challenges / Workshops (Selected)

1. Thanh-Tin Nguyen, Nhat Truong Pham, Yong-Guk Kim, *et. al.*,. “HCILab at Memotion 2.0 2022: Analysis of Sentiment, Emotion and Intensity of Emotion Classes from Meme Images using Single and Multi Modalities”. *First Workshop on Multimodal Fact-Checking and Hate Speech Detection AAAI Workshop*, 2022. [\[Paper\]](#)[\[Link project\]](#)[\[Code\]](#)
2. Thanh-Tin Nguyen, Nhat Truong Pham, Ngoc Duy Nguyen, *et. al.*, “VieCap4H Challenge: Automatic image caption generation for healthcare domains in Vietnamese”. **3rd** at *Proceedings of the 8th International Workshop on Vietnamese Language and Speech Processing*, 2021. [\[Paper\]](#)[\[Link project\]](#)[\[Code\]](#)
3. Long H. Nguyen, Nhat Truong Pham, Van Huong Do, Liu Tai Nguyen, Thanh Tin Nguyen, Hai Nguyen, Ngoc Duy Nguyen. “Fruit-CoV: An Efficient Vision-based Framework for Speedy Detection and Diagnosis of SARS-CoV-2 Infections Through Recorded Cough Sounds”. **1st** at *AI CovidVN 115M Challenge: Covid Cough Detection Challenge*, 2021. [\[Paper\]](#)

Honors / Awards

- **1st Prize in AICovidVN challenge** July. 2021 - Sep. 2021
Introduced Fruit-CoV, a framework that is capable of detecting SARS-CoV-2 through cough sounds. Received 100mil VND (\$4300)

Services and Activities

- **Teacher at K-6 AI Club** Aug. 2022 - Present
AI Club for children around the elementary-school age (K-6) to learn math, coding, robotics, and artificial intelligence. This is a completely FREE, voluntary, educational event. Supported by Auburn University and an NSF CAREER award. Find out more at: [our website](#).

References

- **Dr. Anh Totti Nguyen:** Associate Professor, Auburn University. anhnguyen@auburn.edu
- **Dr. Yong-Guk Kim:** Full Professor, Sejong University. ykim@sejong.ac.kr
- **Dr. Quoc-Ngoc Ly:** Associate Professor, University of Science. lqngoc@fit.hcmus.edu.vn