

# Thanh-Tin Nguyen

## Contact Information

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## Interest

- **Multimodal Large Language Models (including LLMs and VLMs)**: Use LLMs to solve real-world problems such as Document Analysis, Video Analysis, etc

## 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.

## Technical Skills

- **AI**: Computer Vision, NLP, Deep Learning.
- **Large (Vision) Language Models (LLM, VLM)**: Retrieval-Augmented Generation (RAG), Knowledge Graph, Prompting, Batch API, Gemini, GPT4o, Llama, Claude.
- **Programming Language**: C/C++, Python.

## 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.

## 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**. “**Leveraging context information for object recognition**”. *Arxiv*, 2024. [\[Paper\]](#)[\[Video\]](#)

## 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](mailto:anhnguyen@auburn.edu)
- **Dr. Yong-Guk Kim:** Full Professor, Sejong University. [ykim@sejong.ac.kr](mailto:ykim@sejong.ac.kr)
- **Dr. Quoc-Ngoc Ly:** Associate Professor, University of Science. [lqngoc@fit.hcmus.edu.vn](mailto:lqngoc@fit.hcmus.edu.vn)