

# Thanh-Tin Nguyen - AI Researcher

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## 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. **[Accepted]** 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. “1st place in Predicting Deforestation Region in Indonesia Challenge”. *Climate Change AI Challenge*, 2023. [\[Challenge\]](#)[\[Link project\]](#)[\[Code\]](#)
2. 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. [\[Paper\]](#)[\[Link project\]](#)[\[Code\]](#)
3. 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. [\[Paper\]](#)[\[Link project\]](#)[\[Code\]](#)
4. 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 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)