

Khoa Vo

PHD STUDENT · COMPUTER SCIENCE

University of Arkansas, Fayetteville, AR 72701

✉ khoavoho@uark.edu | 🏠 [vhvkhoa.github.io](https://github.com/vhvkhoa) | 📺 [khoa-vo-ho](https://www.youtube.com/channel/UCkhoa-vo-ho) | 📄 Google Scholar

Summary

PhD student (4th year) with strong experience in Python, Pytorch, Tensorflow, Open3D, etc. Have 7 papers published at various popular conferences (e.g., AAAI, WACV, BMVC, ICASSP, ICIP, CVPRW) and 6 manuscripts published top-tier journals (e.g., IJCV, impact factor: 19.5). Special expertise in the following areas:

Temporal Action Localization, Object Detection and Segmentation, Video Paragraph Captioning, Image Captioning, 3D Object Reconstruction.

Professional Experience

- 2020-now **Graduate Research Assistant**, Dept. of CSCE, University of Arkansas
 - Research in temporal action localization, video paragraph captioning, dynamic 3D object reconstruction
- 2019-2020 **Research Internship (6 months)**, National Informatics Institute, Tokyo, Japan
 - Develop a framework for temporal action proposals in untrimmed videos
- 2018-2020 **Research Fellow**, Ho Chi Minh University of Science
 - Work on anomalies detection in traffic surveillance. Creating dataset for cars detection from CCTV
- 2017 **Research Internship (5 months)**, Ho Chi Minh University of Science
 - Survey the effectiveness of machine learning methods for abnormal internet traffic detection

Publications

JOURNALS

- Khoa Vo**, Sang Truong, Kashu Yamazaki, Bhiksha Raj, Minh-Triet Tran, and Ngan Le.
AOE-Net: Entities Interactions Modeling with Adaptive Attention Mechanism for Temporal Action Proposals Generation. *International Journal of Computer Vision*, Vol. 131, 2023. **Impact factor: 19.5 (2022)**
- Khoa Vo**, Kashu Yamazaki, Hieu Hoang, Minh-Triet Tran, and Ngan Le.
Neural Architecture Search for Medical Image Applications. *Book chapter in Meta Learning With Medical Imaging and Health Informatics Applications*, 2023.
- Kashu Yamazaki, **Khoa Vo**, Darshan Bulsara, and Ngan Le.
Spiking Neural Networks and Their Applications: A Review. *Brain Sciences*, Jan 2022. **Editor's Choice.**
- Khoa Vo**, Kashu Yamazaki, Sang Truong, Minh-Triet Tran, Akihiro Sugimoto, and Ngan Le.
ABN: Agent-Aware Boundary Networks for Temporal Action Proposal Generation. *IEEE Access*, 2021.
- Ngan Le, Toan Bui, **Khoa Vo**, Kashu Yamazaki, and Khoa Luu.
Narrow Band Active Contour Attention Model for Medical Segmentation. *Diagnostics*, 2021.
- Khoa Vo**, Quoc-An Luong, Duy-Tam Nguyen, Mai-Khiem Tran, and Minh-Triet Tran.
A Smart System for Text-Lifelog Generation from Wearable Cameras in Smart Environment Using Concept-Augmented Image Captioning with Modified Beam Search Strategy. *Applied Sciences*, 2019.

CONFERENCES

- Thinh Phan, **Khoa Vo**, Duy Le, Gianfranco Doretto, Donald Adjeroh, Ngan Le.
ZEETAD: Adapting Pretrained Vision-Language Model for Zero-Shot End-to-End Temporal Action Detection. *Winter Conference on Applications of Computer Vision (WACV) 2024.*
- Khoa Vo**, Trong-Thang Pham, Kashu Yamazaki, Minh Tran, and Ngan Le.
DNA: Deformable Neural Articulations Network for Dynamic 3D Human Reconstruction From Monocular RGB-D Video. *IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) Workshops*, 2023.
- Kashu Yamazaki*, **Khoa Vo***, Sang Truong, Bhiksha Raj, and Ngan Le. (*: equal contributions)
VLTinT: Visual-Linguistic Transformer-in-Transformer for Coherent Video Paragraph Captioning. *In AAAI Conference on Artificial Intelligence*, 2023. **Oral presentation.**
- Hyekang Joo, **Khoa Vo**, Kashu Yamazaki, and Ngan Le.
CLIP-TSA: CLIP-Assisted Temporal Self-Attention for Weakly-Supervised Video Anomaly Detection. *IEEE International Conference on Image Processing (ICIP)*, 2023. **Oral presentation, top 18% submissions.**

5. Minh Tran, **Khoa Vo**, Kashu Yamazaki, Arthur Fernandes, Michael Kidd, and Ngan Le.
AISFormer: Amodal Instance Segmentation with Transformer.
British Machine Vision Conference (BMVC), 2022.
6. Kashu Yamazaki, Sang Truong, **Khoa Vo**, Michael Kidd, Chase Rainwater, Khoa Luu, and Ngan Le.
VLCap: Vision-Language with Contrastive Learning for Coherent Video Paragraph Captioning.
IEEE International Conference on Image Processing (ICIP), 2022.
7. **Khoa Vo**, Hyekang Joo, Kashu Yamazaki, Sang Truong, Kris Kitani, Minh-Triet Tran, and Ngan Le.
AEI: Actors-Environment Interaction with Adaptive Attention for Temporal Action Proposals Generation.
British Machine Vision Conference (BMVC), 2021. Oral presentation, top 3.33% submissions.
8. **Khoa Vo**, Ngan Le, Kashu Yamazaki, Akihiro Sugimoto, Minh-Triet Tran.
Agent-Environment Network for Temporal Action Proposal Generation.
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2021.
9. **Khoa Vo**, Quoc-An Luong, Duy-Tam Nguyen, Mai-Khiem Tran, and Minh-Triet Tran.
Personal Diary Generation from Wearable Cameras with Concept Augmented Image Captioning and Wide Trail Strategy.
International Symposium on Information and Communication Technology (SolCT), 2018. Best paper award.

Patents

1. Ngan T.H. Le, Michael Kidd, **Khoa Vo**, “Artificial Intelligence And Vision-Based Broiler Body Weight Measurement System And Process”. (*Pending*)
2. Ngan T.H. Le, Michael Kidd, **Khoa Vo**, “Chicken Processing Plant With Automated Computer Vision”. (*Pending*)

Education

University of Arkansas

Fayetteville, AR, USA

PHD IN COMPUTER SCIENCE

2020 - present

- Advisor: Dr. Ngan Le

Ho Chi Minh University of Science

Ho Chi Minh City, Vietnam

MSc IN COMPUTER SCIENCE

2018 - 2021

- Advisor: Dr. Minh-Triet Tran
- Thesis: Agent-Environment Network for Temporal Action Proposal Generation
- Thesis Grade: 10.0/10.0

Ho Chi Minh University of Science

Ho Chi Minh City, Vietnam

BSc IN HONORS PROGRAM OF INFORMATION TECHNOLOGY

2014 - 2018

- Advisor: Dr. Minh-Triet Tran
- Thesis: Image Captioning with Attention Mechanism and Concepts Augmentation
- Thesis Grade: 10.0/10.0

Teaching Experience

- Spring 2023 **Algorithms, University of Arkansas**, Teaching Assistant
- Fall 2023 **Deep Learning, University of Arkansas**, Teaching Assistant
- Fall 2022 **Deep Learning, University of Arkansas**, Teaching Assistant
- Summer 2021 **Applied ML Intensive, NACME-Google Summer Bootcamp**, Teaching Assistant
- Summer 2021 **Arkansas Summer Research Institute, Online**, Teaching Assistant

Awards, Fellowships, & Grants

- 2019 **Vietnam National Master/PhD Scholarship**, Vingroup Innovation Foundation
Competitive rate: 150/400 (37.5%) graduate-level applicants receive scholarships
- 2018 **Best AI Project Award**, Eureka, Vietnam Nation-wide Awards for Student Scientific Research
Competitive rate: 12/903 (1.33%) teams have highest awards in 12 categories

Outreach & Professional Development

I serve as a reviewer for conferences of CVPR 2023-2024, ICML 2021, WACV 2019-2024, ICASSP 2020-2023, ICIP 2023.