

Khoi Nguyen

Ph.D. in Computer Science

Email: ducminhkhoy@gmail.com

Google Scholar: <https://scholar.google.com/citations?user=Eul6W5kAAAAJ>

Website: <http://khoinguyen.org/>

Research interests:

- Generative models: Diffusion Models, Multimodal LLMs
- Few/Zero-shot/Open-vocabulary Learning and Vision-Language Models
- 2D and 3D understanding: Detection, Segmentation, and Reconstruction

EMPLOYMENT/AWARDS

Jul 2021 – Now

Research Scientist

VinAI Research

Awards

- Winner of ScanNet 3DIS - CVPR 2023, Winner of OpenSUN3D - ECCV 2024
- Best Paper - Honorable Mention Award, WACV 2023
- Outstanding Reviewer Award, ECCV 2020
- Vietnam Education Foundation (VEF) Fellowship (Cohort 2015)

EDUCATION

Sep 2017 – Jun 2021

Doctor of Philosophy in Computer Science

Oregon State University, Corvallis, OR, USA, advisor: Prof. Sinisa Todorovic

- Thesis: "Part-based and Uncertainty-Aware Few-shot Object Segmentation in Images"

Sep 2015 – Sep 2017

Master of Science in Computer Science

Oregon State University, Corvallis, OR, USA, advisor: Prof. Sinisa Todorovic

- Thesis: "Relational Networks for Visual Relationship Detection"

Sep 2009 – Apr 2014

Bachelors's degree in Computer Science

Ho Chi Minh City University of Technology, Vietnam, advisor: Prof. Tru Cao

- Thesis: "Entity Disambiguation System based on Wikipedia",

PUBLICATIONS

Published papers
[Khoi Nguyen](#): Myself

- [ECCV'24] Uy Dieu Tran*, Minh Luu*, Phong Nguyen, [Khoi Nguyen](#), Binh-Son Hua, **Diverse Text-to-3D Synthesis with Augmented Text Embedding**
- [ECCV'24] Trung Dao, Thanh Le, Duc Vu, Thuan Nguyen, [Khoi Nguyen](#), Cuong Pham, Anh Tran, **SwiftBrush v2: Make Your One-step Diffusion Model Better Than Its Teacher**
- [CVPR'24] Phuc DA Nguyen*, Tuan Duc Ngo*, Chuang Gan, Evangelos Kalogerakis, Anh Tran, Cuong Pham, [Khoi Nguyen](#), **Open3DIS: Open-vocabulary 3D Instance Segmentation with 2D Mask Guidance**
- [arXiv'23b] Quang Nguyen*, Truong Vu*, Cuong Pham, Anh Tran, [Khoi Nguyen](#), **Stable Messenger: Steganography for Message-Concealed Image Generation**
- [WACV'24] Chau Pham*, Truong Vu*, [Khoi Nguyen](#), **LP-OVOD: Open-Vocabulary Object Detection by Linear Probing**
- [NeurIPS'23] Quang Nguyen*, Truong Vu*, Anh Tran, [Khoi Nguyen](#), **Dataset-Diffusion: Diffusion-based Synthetic Data Generation for Pixel-Level Semantic Segmentation**
- [ICCV'23] Tuan Ngo, Binh-Son Hua, [Khoi Nguyen](#), **GaPro: Box-Supervised 3D Point Cloud Instance Segmentation Using Gaussian Processes as Pseudo Labels**
- [CVPR'23] Tuan Ngo, Binh-Son Hua, [Khoi Nguyen](#), **ISBNet: a 3D Point Cloud Instance Segmentation Network with Instance-aware Sampling and Box-aware Dynamic Convolution**
- [WACV'23] Hue Nguyen, Diep Tran, [Khoi Nguyen](#), Rang Nguyen, **PSENet: Progressive Self-Enhancement Network for Unsupervised Extreme-Light Image Enhancement , (The Best Paper - Honorable Mention Award!)**
- [ECCV'22c] Tuan Ngo, [Khoi Nguyen](#), **Geodesic-Former: a Geodesic-Guided Few-shot 3D Point Cloud Instance Segmenter**
- [ECCV'22b] Thanh Nguyen*, Chau Pham*, [Khoi Nguyen](#), Minh Hoai, **Few-shot Object Counting and Detection**

- [ECCV'22a] Khoi D. Nguyen, Quoc-Huy Tran, [Khoi Nguyen](#), Binh-Son Hua, Rang Nguyen, **Inductive and Transductive Few-Shot Video Classification via Appearance and Temporal Alignments**
 - [CVPR'22] [Khoi Nguyen](#), Sinisa Todorovic, **iFS-RCNN: An Incremental Few-shot Instance Segmenter**
 - [NeurIPS'21] Duong Le*, Khoi D. Nguyen*, [Khoi Nguyen](#), Quoc-Huy Tran, Rang Nguyen, Binh-Son Hua, **POODLE: Improving Few-shot Learning via Penalizing Out-of-Distribution Samples**
 - [ICCV'21] [Khoi Nguyen](#), Sinisa Todorovic, **A Weakly Supervised Amodal Segmenter with Boundary Uncertainty Estimation**
 - [CVPR'21] [Khoi Nguyen](#), Sinisa Todorovic, **FAPIS: A Few-shot Anchor-free Part-based Instance Segmenter**
 - [ICPR'20] [Khoi Nguyen](#), Sinisa Todorovic, **A Self-supervised GAN for Unsupervised Few-shot Object Recognition**
 - [ICCV'19] [Khoi Nguyen](#), Sinisa Todorovic, **Feature Weighting and Boosting for Few-Shot Segmentation**
- Patents • [Khoi Nguyen](#), Maneesh Kumar Singh, **Computer Vision Systems and Methods for Information Extraction from Text Images Using Evidence Grounding Techniques**, in *US Patent*, 2021

STUDENT ADVISING

- Main advise • Nguyen Ho Quang, Feb 2023 - now, **Image Generation**
 • Nguyen Qui Vinh Quang, Aug 2023 - now, **3D Human Mesh Recovery in Videos**
 • Luu Nguyen Hoang Minh, Feb 2023 - now, **Text-to-3D Synthesis**
- Co-advise • Pham Duc Hai, Feb 2023 - now, **3D Scene Understanding from Monocular Cameras**
 • Nguyen Duc Anh Phuc, Feb 2023 - now, **3D Point Cloud Understanding**
 • Tran Dieu Uy, Feb 2023 - now, **Generalized 3D Generation**
 • Nguyen Minh Hung, Aug 2023 - now, **Controlled Video Generation**
- Graduated • Vu Tuan Truong, Jul 2022 - Jul 2024, **Vision-Language Models**, now: PhD Student at Northeastern University since 2024
 • Ngo Duc Tuan, Aug 2021 - Jul 2024, **3D Point Cloud Instance Segmentation**, now: PhD Student at Umass Amherst since 2023
 • Pham Hai Chau, Aug 2021 - now, **Few-shot and Zero-shot Object Detection**, now: PhD Student at University at Buffalo since 2023

PROFESSIONAL ACTIVITIES

- Reviewer • CVPR 2021, 2022, 2023, 2024
 • ICCV 2021, 2023
 • ECCV 2020, 2022, 2024
 • NeurIPS 2022, 2023, 2024
 • ICLR 2022, 2023, 2024
 • Journals: TPAMI, TIP
- Area Chair • ACCV 2024
 • BMVC 2024
- Workshop Organizer • "SyntaGen: Harnessing Generative Models for Synthetic Visual Datasets", CVPR 2024

EXPERIENCE

- Jun 2019 - Sep 2019 **Research Intern**
 AlBee US Corp - Palo Alto, CA, USA
 • Topic: Multi-person Tracking by Segmentation in Surveillance Camera
 • Mentor: Dr. Chunhui Gu, Dr. Sinisa Todorovic, **Dr. Silvio Savarese**
- Jun 2018 - Sep 2018 **Research Intern**
 Verisk Analytics - the AI Innovation Lab, Jersey City, New Jersey, USA
 • Topic: Apply Graph Neural Network to image document analysis
 • Mentor: Dr. Maneesh Singh