

# Khoi Nguyen

Ph.D. in Computer Science

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

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

## Research interests:

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

## EMPLOYMENT/AWARDS

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*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

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*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

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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, **SwiftBrushv2: 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

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- Main advise
- Nguyen Quang Binh, Aug 2024 - now, **Image Personalization**
  - Nguyen Ho Quang, Feb 2023 - now, **Image Generation and Safe GenAI**
  - 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
- Duong Ngoc Quang Huy, Aug 2024 - now, **Multimodal Conditional Image Generation**
  - Pham Duc Hai, Feb 2023 - now, **3D Scene Understanding**
  - 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 (2024), **Vision-Language Models**, Northeastern University
  - Ngo Duc Tuan (2023), **3D Point Cloud Instance Segmentation**, UMass Amherst
  - Pham Hai Chau (2023), **Few/Zero-shot Object Detection**, University at Buffalo

## PROFESSIONAL ACTIVITIES

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- 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

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- 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