

Khoi Nguyen

PhD in Computer Science - Research Scientist in Computer Vision and GenAI

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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"

EMPLOYMENT

Apr 2025 – Now

Staff Research Scientist at Qualcomm AI Research

- Conduct cutting-edge research in GenAI, including Image, Video, and 3D Generation
- Publish papers at top-tier AI conferences such as CVPR, ICCV, ECCV, and NeurIPS
- Build efficient image/video understanding and generation models for edge devices.

Jul 2021 – Mar 2025

Research Scientist at VinAI Research

- Conduct cutting-edge research in Computer Vision, including Perception AI (detection, segmentation, tracking) and Generative AI (Image, Video, 3D Model Synthesis)
- Publish papers at top-tier CV conferences such as CVPR, ICCV, ECCV, and NeurIPS
- Lead a product to build a visual perception system for an autonomous driving agent

RESEARCH EXPERTISE

Research Interests

- Deep Generative Models for Visual Content Creation: Including images, videos, and 3D data, utilizing diffusion models, autoregressive models, and multimodal LLMs.
- 2D and 3D Understanding: detection, segmentation, and vision language models.
- Learning with Limited Supervision: few-shot/zero-shot and open-vocabulary learning.

Technical Skills

- PyTorch, Python, C++, Diffusion models, Auto-regressive models, Multimodal LLMs

PUBLICATIONS

Preprints
Khoi Nguyen: Myself

- [ArXiv'24c] Quang Nguyen, Truong Vu, Trong-Tung Nguyen, Yuxin Wen, Preston K Robinette, Taylor T Johnson, Tom Goldstein, Anh Tran, [Khoi Nguyen](#), **EditScout: Locating Forged Regions from Diffusion-based Edited Images with Multimodal LLM**
- [ArXiv'24b] Uy Dieu Tran, Minh Luu, Phong Ha Nguyen, [Khoi Nguyen](#), Binh-Son Hua, **ModeDreamer: Mode Guiding Score Distillation for Text-to-3D Generation using Reference Image Prompts**
- [ArXiv'24a] Phuc D.A. Nguyen, Minh Luu, Anh Tran, Cuong Pham, [Khoi Nguyen](#), **Open-Ended 3D Point Cloud Instance Segmentation**
- [arXiv'23] Quang Nguyen*, Truong Vu*, Cuong Pham, Anh Tran, [Khoi Nguyen](#), **Stable Messenger: Steganography for Message-Concealed Image Generation**

Conferences

- [ICCV'25b] Viet Van Nguyen, Anh Nguyen, Trung Tuan Dao, [Khoi Nguyen](#), Cuong Pham, Toan Tran, Anh Tuan Tran **Supercharged One-step Text-to-Image Diffusion Models with Negative Prompts**
- [ICCV'25a] Quang-Binh Nguyen, Minh Luu, Quang Nguyen, Anh Tuan Tran, [Khoi Nguyen](#) **CSD-VAR: Content-Style Decomposition in Visual Autoregressive Models**
- [CVPR'25c] Trong-Tung Nguyen, Quang Nguyen, [Khoi Nguyen](#), Anh Tran, Cuong Pham, **SwiftEdit: Lightning Fast Text-Guided Image Editing via One-Step Diffusion**
- [CVPR'25b] Hai Pham, Tung Do, Phong Nguyen, Son Hua, [Khoi Nguyen](#), Rang Nguyen, **SharpDepth: Sharpening Metric Depth Predictions Using Diffusion Distillation**
- [CVPR'25a] Phuc Nguyen, Minh Luu, Anh Tran, Cuong Pham, [Khoi Nguyen](#), **Any3DIS: Class-Agnostic 3D Instance Segmentation by 2D Mask Tracking**
- [AAAI'25b] Hung Nguyen, Quang Qui-Vinh Nguyen, [Khoi Nguyen](#), Rang Nguyen, **SwiftTry: Fast and Consistent Video Virtual Try-On with Diffusion Models**

- [AAAI'25a] Duc-Hai Pham, Duc Dung Nguyen, Hoang-Anh Pham, Ho Lai Tuan, Phong Ha Nguyen, [Khoi Nguyen](#), Rang Nguyen, **Semi-supervised 3D Semantic Scene Completion with 2D Vision Foundation Model Guidance**
- [ECCV'24b] Uy Dieu Tran*, Minh Luu*, Phong Nguyen, [Khoi Nguyen](#), Binh-Son Hua, **Diverse Text-to-3D Synthesis with Augmented Text Embedding**
- [ECCV'24a] Trung Dao, Thanh Le, Duc Vu, Thuan Nguyen, [Khoi Nguyen](#), Cuong Pham, Anh Tran, **SBv2: 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**
- [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 Labelers**
- [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

- Thi Hue Nguyen, Thi Ngoc Diep Tran, Cong Thanh Tran, [Khoi Nguyen](#), Ho Man Rang Nguyen, Hai Hung Bui, **Method and apparatus for extreme-light image enhancement**, in *US Patent*, 2024
- [Khoi Nguyen](#), Maneesh Singh, **Computer Vision Systems and Methods for Information Extraction from Text Images Using Evidence Grounding Techniques**, in *US Patent*, 2021

AWARDS/ACTIVITIES

Awards

- **Best Paper - Honorable Mention Award, WACV 2023**
- Outstanding Reviewer Award, ECCV 2020
- Vietnam Education Foundation (VEF) Fellowship (Cohort 2015)

Reviewer

- **CVPR**: 2021, 2022, 2023, 2024, 2025; **ICCV**: 2021, 2023, 2025; **ECCV**: 2020, 2022, 2024
- **NeurIPS**: 2022, 2023, 2024; **ICLR**: 2022, 2023, 2024, 2025
- **Journals**: TPAMI, TIP

Area Chair

- **ACCV**: 2024; **BMVC**: 2024, 2025; **NeurIPS** 2025

LEADERSHIP/MENTORSHIP	
Workshop Organizer	• “SyntaGen: Harnessing Generative Models for Synthetic Visual Datasets”, CVPR 2024, 2025
Team Lead	• “Generative AI” research theme and Seminar Series Manager at VinAI Research
Mentor	• Mentoring 10+ AI residents to conduct cutting-edge research to publish 15+ papers on top-tier Computer Vision conferences and apply for 5+ prestigious PhD Programs.