Tuan Duc Ngo

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CONTACT INFORMATION

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EDUCATION

University of Massachusetts Amherst, Amherst, MA
Ph.D. in Computer Science Sep 2023 - Present

- Advisors: Prof. Evangelos Kalogerakis, Prof. Chuang Gan
- GPA: 3.97/4.00

Ho Chi Minh City University of Technology, Ho Chi Minh City, Vietnam
B.E in Computer Engineering Aug 2017 - Aug 2021

- Graduated with the *Highest honor*.
- GPA: 9.62/10.00

SELECTED PUBLICATIONS

Conferences

- **Tuan Duc Ngo**, Jiahui Huang, Seoung Wug Oh, Kevin Blackburn-Matzen, Evangelos Kalogerakis, Chuang Gan, Joon-Young Lee, "DAGE: Dual-Stream Architecture for Efficient and Fine-Grained Geometry Estimation", *preprint*.
- **Tuan Duc Ngo**, Ashkan Mirzaei, Guocheng Qian, Hanwen Liang, Chuang Gan, Evangelos Kalogerakis, Peter Wonka, Chaoyang Wang, "DELTAv2: Accelerating Dense 3D Tracking", *preprint*.
- Chaoyang Wang*, Peiye Zhuang*, **Tuan Duc Ngo***, Willi Menapace, Aliaksandr Siarohin, Michael Vasilkovsky, Ivan Skorokhodov, Sergey Tulyakov, Peter Wonka, Hsin-Ying Lee, "4Real-Video Learning Generalizable Photo-Realistic 4D Video Diffusion", in *Computer Vision and Pattern Recognition Conference (**CVPR**), 2025.* Highlight
- **Tuan Duc Ngo**, Peiye Zhuang, Chuang Gan, Evangelos Kalogerakis, Sergey Tulyakov, Hsin-ying Lee, Chaoyang Wang, "DELTA: Dense Efficient Long-range 3D Tracking for any video", in *International Conference on Learning Representations (**ICLR**), 2025.*
- Phuc Nguyen*, **Tuan Duc Ngo***, Chuang Gan, Evangelos Kalogerakis, Anh Tran, Cuong Pham, Khoi Nguyen, "Open3DIS: Open-vocabulary 3D Instance Segmentation with 2D Mask Guidance", in *Computer Vision and Pattern Recognition Conference (**CVPR**), 2024.*
- **Tuan Duc Ngo**, Binh-Son Hua, Khoi Nguyen, "GaPro: Box-Supervised 3D Point Cloud Instance Segmentation Using Gaussian Processes as Pseudo Labelers", in *International Conference on Computer Vision (**ICCV**), 2023.*
- **Tuan Duc Ngo**, Binh-Son Hua, Khoi Nguyen, "ISBNet: a 3D Point Cloud Instance Segmentation Network with Instance-aware Sampling and Box-aware Dynamic Convolution", in *Computer Vision and Pattern Recognition Conference (**CVPR**), 2023.*
- **Tuan Duc Ngo** and Khoi Nguyen, "Geodesic-Former: a Geodesic-Guided Few-shot 3D Point Cloud Instance Segmenter", in *European Conference on Computer Vision (**ECCV**), 2022.*

RESEARCH EXPERIENCE

Adobe Inc. San Jose, CA
Research Intern (Video team) May 2025 - Nov 2025

- Mentors: Gabriel Huang, Dr. Joon-Young Lee, Dr. Seoung Wug Oh.
- Main research topics: 3D/4D reconstruction.
- Project: "Efficient and fine-grained visual geometry"
  - A dual-stream architecture for efficient and fine-grained pointmap/depth and camera pose estimation from video (under review).

Snap Inc. Santa Monica, CA

Research Intern (Creative Vision team) May 2024 - May 2025

- Mentors: Dr. Chaoyang Wang, Dr. Hsin-Ying Lee, Dr. Peiye Zhuang.
- Main research topics: 3D Point Tracking, 4D reconstruction.
- Project: "Dense 3D Tracking"
  - Capturing dense, long-range, 3D point trajectories from casual videos in a feed-forward manner (ICLR 2025).
  - Accelerate dense, long-range 3D tracking with a coarse-to-fine approach (under review).

UMass Amherst Amherst, MA

Research Assistant Sept 2023 - present

- Main research topics: 3D Generative Model, 3D Animation and 3D Motion Synthesis.
- Project: "Open-Vocabulary 3D Segmentation"
  - Addressing 3D Instance Segmentation with Open-Vocabulary queries by leveraing 2D and 3D priors.
- Project: "Text-to-3D-motion"
  - Generating diverse 3D human motions from textual description.
- Project: "Articulated 3D Object Reconstruction"

VinAI Research Ha Noi, Vietnam

AI Research Resident Aug 2021 - July 2023

- Mentors: Dr. Khoi Nguyen, Prof. Binh-Son Hua.
- Main research topics: 3D Point Cloud Instance Segmentation, 3D Object Detection, and 3D Scene Completion.
- Project: "Camera-based 3D Occupancy Prediction"
  - Enhancing bird's-eye-view 3D object detectors for 3D occupancy prediction task.
- Project: "3D Point Cloud Instance Segmentation"
  - Introduce an efficient and robust sampling strategy and propose leveraging the bounding box as a geometric cue for the 3D point cloud instance segmentation task (CVPR 2023).
- Project: "Weakly Supervised 3D Point Cloud Instance Segmentation"
  - Introduce using Gaussian Process to generate high-quality pseudo instance masks from the axis-aligned GT bounding boxes for the 3D point cloud instance segmentation task (ICCV 2023).
- Project: "Few-shot 3D Point Cloud Instance Segmentation"
  - Propose a new task of 3D understanding, Few-shot 3D point cloud instance segmentation, and address it with a transformer-based 3D instance segmenter leveraging geodesic distance as a strong geometric cue (ECCV 2022).

AI Engineer (Applied Rotation Program) Jul 2022 - Oct 2022

- Project: "Bird-eye-view semantic segmentation from multi-view fisheye images"
  - Participate in the Surrounding-View-Monitoring team to design and develop a new "Bird-eye-view semantic segmentation" feature, including data preparation, modeling, and deploying.
  - Awarded as the best Applied Rotation Program project.

Technical talks

- DELTA: Dense Efficient Long-range 3D Tracking for any video, at *New England Computer Vision (NECV) Workshop 2024*
- ISBNet: a 3D Point Cloud Instance Segmentation Network with Instance-aware Sampling and Box-aware Dynamic Convolution, at *ScanNet Indoor Scene Understanding Challenge CVPR 2023 Workshop*, slide, video, poster Jun, 2023
- Geodesic-Former: a Geodesic-Guided Few-shot 3D Point Cloud Instance Segmenter, at *VinAI 2022 Winter Workshop*, slide, video, poster Nov, 2022

Academic Services

- Reviewer of CVPR (2024, 2025, 2026), ICCV (2025), ECCV (2024), NeurIPS (2025), ICLR (2026), AAAI (2025, 2026), IEEE Transactions on Image Processing.

Honors and Awards

- 2023 CICS Scholarship, UMass Amherst. 2023
- Class of 2021 **Valedictorian** of HCMUT (graduated with the highest GPA) 2021
- Scholarships for outstanding academic achievements, HCMUT 2017 - 2021