

CONTACT Email: ductuan.ngo99@gmail.com
INFORMATION Google Scholar: [Tuan Duc Ngo](#)
Homepage: <https://ngoductuanlhp.github.io/>
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RESEARCH My research interests are in computer vision, specifically focusing on 3D understanding. I am devel-
INTERESTS oping algorithms and techniques for understanding the geometry and semantics of 3D scenes, with
applications in autonomous driving, robotics, and augmented reality.

EDUCATION **University of Massachusetts Amherst,** Massachusetts, US
Ph.D. in Computer Science Sep 2023 - Sep 2028 (expected)

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

- Graduated with the *Highest honor*.
- GPA: $9.62/10.00 \approx A+$, *Excellent Degree*

Le Hong Phong High School for the Gifted, Ho Chi Minh City, Vietnam
Major in *Mathematics* Aug 2014 - Jun 2017

PUBLICATIONS Conferences

- **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

Journals

- Bui MV*, **Ngo DT***, Pham H, Nguyen DD., “[GAC3D: improving monocular 3D object detection with ground-guide model and adaptive convolution](#)”, *PeerJ Computer Science Journal*, 2021

RESEARCH **VinAI Research,** Ha Noi, Vietnam
EXPERIENCE *AI Research Resident* Aug 2021 - July 2023

- 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.
- 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.
- 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.

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

- Geodesic-Former: a Geodesic-Guided Few-shot 3D Point Cloud Instance Segmenter, *VinAI Research*, [slide](#), [video](#) Nov, 2022

HONORS AND AWARDS

- Class of 2021 **Valedictorian** of HCMUT (graduated with the highest GPA (9.62/10.0)) 2021
- Scholarships for outstanding academic achievements, HCMUT 2017 - 2021
- Honda Award (Awarded to top 100 undergraduate students in Vietnam) 2020
- Third Prize in the final round of Digital Race - FPT 2020
- Gold Medals in Vietnam Southern Regional Olympiad in Physics 2015, 2016

TECHNICAL SKILLS

Programming skills:

- Proficient: Python (PyTorch, TensorFlow, numpy, scikit-learn)
- Familiar: C++, C#, Latex

Tools:

- ROS, Microsoft Azure, Docker, TensorRT, TensorFlow Lite

LANGUAGES

- Vietnamese: Native
- English: Proficient
 - IELTS: 7.5 (L: 8.0, R: 7.5, W: 7.0, S: 7.0)

REFERENCES

[Dr. Khoi Nguyen](#)

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VinAI Research, Vietnam
Email: ducminhkhoy@gmail.com

[Assoc. Prof. Minh Hoai Nguyen](#)

Associate Professor
Department of Computer Science
Stony Brook University, US
E-mail: minhhoai@cs.stonybrook.edu

[Dr. Binh-Son Hua](#)

Research Scientist
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