PHAM QUANG HIEU

Woven Planet North America
Senior Software Engineer

3D computer vision • deep learning • autonomous driving

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EXPERIENCE

Woven Planet North America
Senior Software Engineer — *Dec 2022 – present*
Software Engineer — *Jul 2021 – Dec 2022*
- Leading a team of 4 engineers working on edge model deployment for the perception team
- Building the underlying infrastructure for edge compute, e.g. quantization and benchmarking
- Core contributor to the vision-only 3D perception stack

Lyft Level 5
Software Engineer — *May 2021 – Jul 2021*
- Architected and developed a new free space prediction module in the perception stack
- Continued with Woven Planet after the acquisition of Level 5 in Jul 2021

Meta Reality Labs
Research Intern — *Aug 2020 – Nov 2020*
- Researched on deep learning method for high-fidelity 3D eye segmentation

Lyft Level 5
Software Engineering Intern — *Feb 2020 – Jun 2020*
- Improved the performance of LiDAR-based large-vehicle detection model
- Led the migration effort of the detection code base from Tensorflow to PyTorch

EDUCATION

Singapore University of Technology and Design (SUTD)
Ph.D. in Computer Science — *2016 – 2020*
- Advisors: Dr. Sai-Kit Yeung and Dr. Gemma Roig
- Thesis: Data-driven 3D scene understanding
- SUTD President's Graduate Fellowship

Vietnam National University - Ho Chi Minh City University of Science
B.S. in Computer Science — *2010 – 2014*
- Summa cum laude

SELECTED PUBLICATIONS

RFNet-4D: Joint object reconstruction and flow estimation from 4D point clouds
European Conference on Computer Vision (ECCV) — *2022*
Tuan-Anh Vu, Duc Thanh Nguyen, Binh-Son Hua, Quang-Hieu Pham, and Sai-Kit Yeung

Point-set distances for learning representations of 3D point clouds
International Conference on Computer Vision (ICCV) — *2021*
Trung Nguyen, Quang-Hieu Pham, Tam Le, Tung Pham, Nhat Ho, and Binh-Son Hua

A*3D: An autonomous driving dataset in challenging environments
IEEE International Conference on Robotics and Automation (ICRA) — *2020*
Quang-Hieu Pham*, Pierre Sevestre*, Ramanpreet Singh Pahwa, Huijing Zhan, Chun Ho Pang, Yuda Chen, Armin Mustafa, Vijay Chandrasekhar, and Jie Lin

LCD: Learned cross-domain descriptors for 2D-3D matching
AAAI Conference on Artificial Intelligence *2020*
Quang-Hieu Pham, Mikaela Angelina Uy, Binh-Son Hua, Duc Thanh Nguyen, Gemma Roig, and Sai-Kit Yeung

Revisiting point cloud classification: A new benchmark dataset and classification model on real-world data
International Conference on Computer Vision (ICCV) *2019*
Mikaela Angelina Uy, Quang-Hieu Pham, Binh-Son Hua, Duc Thanh Nguyen, and Sai-Kit Yeung

JSIS3D: Joint semantic-instance segmentation of 3D point clouds with multi-task pointwise networks and multi-value conditional random fields
IEEE Conference on Computer Vision and Pattern Recognition (CVPR) *2019*
Quang-Hieu Pham, Duc Thanh Nguyen, Binh-Son Hua, Gemma Roig, and Sai-Kit Yeung

Real-time progressive 3D semantic segmentation for indoor scenes
IEEE Winter Conference on Applications of Computer Vision (WACV) *2019*
Quang-Hieu Pham, Binh-Son Hua, Duc Thanh Nguyen, and Sai-Kit Yeung

SceneNN: A scene meshes dataset with annotations
International Conference on 3D Vision (3DV) *2016*
Binh-Son Hua, Quang-Hieu Pham, Duc Thanh Nguyen, Minh-Khoi Tran, Lap-Fai Yu, and Sai-Kit Yeung

SKILLS

Languages: English (fluent), Vietnamese (native)
Programming: C/C++, Python, CUDA, Pytorch, OpenGL, OpenCV