NGOC-VUONG HO

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RESEARCH INTERESTS

My research interests include the areas of 3D Vision/3D Deep Learning. I am passionate working on Point Cloud/LiDAR sensor such as 3D Object Detection, Semantic Segmentation for Autopilot Perception .

EDUCATION

University of Information Technology (UIT- VNUHCM) August 2016 - November 2020
Bachelor of Science in Computer Science. GPA: 8.04/10.00

PUBLICATIONS

1. **Ngoc-Vuong Ho**, Tan Nguyen, Gia-Han Diep, Ngan Le, Binh-Son Hua. Point-Unet: A Context-aware Point-based Neural Network for Volumetric Segmentation, **MICCAI 2021**

RESEARCH EXPERIENCE

VinAI Research Vietnam

- ***AI Research Resident*** *April 2020 - March 2021*
  Research focus on Medical imaging, Brain Tumor Segmentation with 3D image
  Mentor: **Binh-Son Hua** (VinAI Research), **Ngan T.H. Le** (University of Arkansas)
- ***Research Engineer*** *March 2021-Present*
  Researched and develop LiDAR-Camera calibration module on VinFast cars.
  Researched and applied CV, ML/DL techniques to develop 3D object detection from LiDAR Point Cloud.

WORK EXPERIENCE

VCCorp Corporation June 2019 - April 2020
Machine Learning Engineer *Ho Chi Minh, Vietnam*
Building **Lotus** social network for Vietnamese people. Check and detect images and videos containing depraved content, violence, face recognition. R&D model of image and video classification.
Language/Framework: **Python/TensorFlow**, **PyTorch**, **Keras**

Eplatform Solution June 2018 - March 2019
Machine Learning Engineer *Ho Chi Minh, Vietnam*
Analyze the construction drawing images, convert it from 2D images into 3D.
Language/Framework: Python/TensorFlow, Chainer

FPT Software Ho Chi Minh, Vietnam March 2017 - May 2018
Intern Machine Learning Engineer *Ho Chi Minh, Vietnam*
Developing model of lung, muscle, fat segment ... in CT image. Analysis, processing and visualization of CT image data.
Language/Framework: Python/TensorFlow

PROJECTS

Self-driving car August 2017
Design of mini-self-driving cars, running in real environment Using machine learning to detect lanes, traffic signs, obstructions, thereby making decisions about speed, steering angle. [Video demo].

Document Layout Analysis July 2018
Designing a system/algorithm to analyze the layout of the Vietnamese, English document image (respect to the magazine). Identify and localize areas of text, tables, statistical charts, and images... And the description for the object of them. [Video demo].

Segmentation of Lungs from Chest X-Ray March 2019

I designed an automatic lung segmentation system in the chest X-ray. Since then assess the health status of patients. The accuracy of the current test set is over 98%. Development based on the paper Fully Convolutional Networks for Semantic Segmentation. [Video demo]

Face detection and recognition January 2019

Building a facial recognition system, taking attendance in buildings, apartments, and classrooms. The system can work well for about 100 people. The system uses deep learning. Requires quick training when new people are added. I used one-shot learning, few-shot learning, CNN ... [Video demo]

Detect object broken May 2018

Detecting broken products when passing on conveyor belts in industrial plants. I have built a deep learning model architecture. Research the solution method.

HONOR AND AWARD

- MICCAI 2021 Student Travel Award 2021
- HackerRank Certificates Problem Solving (Basic) [**Certificate**] 2020
- Southeast Asia Machine Learning School in Indonesia [**Certificate**] 2019
- Google I/O EXTENDED VIETNAM [**Certificate**] 2019
- Statistical learning "bagging, boosting, SVM, introduction to neural networks" by Vietnam Institute for Advanced Study in Mathematics [**Certificate**] 2019
- Top 25 Tech Debate for Students[**Certificate**] 2019
- Top 10/176 in the Document Layout Analysis - Cinnamon AI Marathon [**Certificate**] 2019
- Top 8/876 in the Digital race Driverless in 2017 -2018 by FPT Corporation [**Certificate**] 2018

SKILLS

Programming Languages	Python(proficient), C++
Platforms	Linux, Windows
Languages	English, Vietnamese
Other	OpenCV(proficient), Tensorflow, Keras, Chainer, PyTorch, Latex(familiar)