

Yan Hao

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Education

ETH Zürich, Switzerland

Master's degree in Computer Science (Computer Vision, Machine Learning)

September 2020 - now

GPA: 5.08/6.0

Shanghai Jiao Tong University, China

Bachelor's degree in Computer Science, ACM Honor Class, Zhiyuan College

September 2016 - June 2020

GPA: 3.65/4.3

Work Experience

Amazon AWS Shanghai AI Lab

Research Intern [Code] [Report]

June 2020 - September 2020

Shanghai, China

- Implement a previous **3D Point Cloud** learning algorithm “Grid-GCN” to the codebase *Deep Graph Library*.
- Transfer the deep learning library of the implementation from Mxnet to **Pytorch**.
- Accelerate the speed of training 3 times faster compared to the initial implementation.

Project Experience

Intelligent Maintenance and Operations Systems, EPFL

Master Thesis, advised by Prof. Dr. Olga Fink, Dr. Florent Forest

November 2022 - June 2023

Lausanne, Switzerland

- A new source-free **domain adaptation** method for **object detection** applied to road scene understanding.
- Implementation bases on **Detectron2** and **Pytorch**. Achieve **state-of-the-art** results for the adaptation from Cityscapes to Cityscapes Foggy and from Sim10k to Cityscapes.

3D Vision, ETH

Research Project, advised by Dr. Iro Armeni

May 2021 - June 2023

Zürich, Switzerland

- Propose a new spatiotemporal dataset and benchmark called **NSS (Nothing Stands Still)** on 3D point cloud registration under large geometric change across temporal stages. Accepted at **CVPR 2023 DEMO**.
- Use **Blender** and conduct high-quality visualizations on the proposed dataset and benchmark.
- Implement a brand-new **VR application** on **Meta Quest Pro** using **Unity** and enable realistic interaction for users with the 3D scenes.

DeepDrive & BAIR, UC Berkeley

Research Project, advised by Prof. Dr. Trevor Darrell

July 2019 - December 2019

Berkeley, California, USA

- Targeted at conducting **instance-level object segmentation** on driving videos using mask propagation technique and **optical flow** on BDD 100K.

Publications & Manuscripts

Source Free Domain Adaptation for Object Detection applied to Road Scene Understanding

Yan Hao, Florent Forest*, Olga Fink*

In preparation

Nothing Stands Still: A Spatiotemporal Benchmark on 3D Point Cloud Registration Under Large Geometric and Temporal Change

CVPR 2023 DEMO

Tao Sun, Yan Hao, Shengyu Huang, Silvio Savarese, Konrad Schindler, Marc Pollefeys, Iro Armeni

3D Objectness Estimation via Bottom-up Regret Grouping

Zelin Ye, Yan Hao, Liang Xu, Rui Zhu, Cewu Lu

Arxiv

Predicate-Aware Learning Network for Visual Relationship Recognition

Liang Xu, Yong-Lu Li, Mingyang Chen, Yan Hao, Cewu Lu

ICME, Oral

Visual Rhythm Prediction with Feature-Aligned Network

Yutong Xie, Haiyang Wang, Yan Hao, Zihao Xu

MVA 2019

Technical Skills

Python, C++, Java, JavaScript, Pytorch, Tensorflow, 3D Vision, Detectron2, OpenCV, Domain Adaptation, Object Detection, Object Segmentation, Unity, VR, Blender, React.