

XUHUA HUANG

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EDUCATION

CARNEGIE MELLON UNIVERSITY – SCHOOL OF COMPUTER SCIENCE

M.S. in Computer Vision | GPA: 4.0 / 4.0

Advisors: Prof. Kris Kitani & Prof. Deva Ramanan

Pittsburgh, PA

Feb 2021 – May 2022

THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY (HKUST)

B.E., Computer Science & Big Data Technology | Major GPA: 3.9 / 4.0 (Top 5%)

Honors: First Class Honors, HKSAR Government Scholarship, Dean's List, Scholarship for top 10% UG students

Hong Kong

Sep 2015 – Jun 2020

SELECTED PUBLICATIONS

1. **Ego4d: Around the world in 3,000 hours of egocentric video** In CVPR, 2022 (Oral, Best Paper Finalist)
2. **Fast Video Object Segmentation with Temporal Aggregation Network and Dynamic Template Matching** In CVPR, 2020
3. **Polarized Reflection Removal with Perfect Alignment in the Wild** In CVPR, 2020

WORK EXPERIENCE

META PLATFORMS, INC.

Applied Research Scientist in Meta Reality Labs

Menlo Park, CA

Aug 2022 – Present

- Participate in the research and development of Meta's next generation Virtual Reality (VR) products and contributed to the improvement of our industry-leading realistic representation algorithm (i.e. Codec Avatar)
- Established a scalable evaluation pipeline for the core VR face Codec Avatar models, which played an essential role in algorithm improvement and VR headset design

SENSETIME GROUP LIMITED

R&D Intern in Mobile Intelligence Group

Hong Kong

Feb 2020 – Feb 2021

- Developed a real-time adaptive image enhancement method based on Deep Curve Estimation, significantly enhancing the quality of mobile-taken night-scene HDR photos to industry-leading level
- Upgraded a Fully Convolutional Network to tackle image auto-cropping problems with composition-aware and saliency-aware aesthetic score map, achieving 80%+ accuracy and 1.1ms/image speed

PALO ALTO NETWORKS

Intern in Data Analytics & Cloud Team

Mountain View, CA

Sep 2018 – Jun 2019

- Analyzed network behavior anomalies and captured useful features from network traffic for AI modeling
- Optimized a large-scale distributed streaming data pipeline deployed on Amazon Web Service, with Kafka and Spark

TENCENT

R&D Intern in Machine Learning Group (supervised by Prof. Yu-Wing Tai)

Shenzhen, China

May 2018 – Aug 2018

- Designed and implemented a refined object detection model achieving 90%+ accuracy on industrial-level datasets through advanced analysis of various state-of-the-art pipelines and their variants
- Developed a productive framework for Neural Network Optimization through magnitude-based filter pruning in PyTorch, which successfully reduced 40% parameters of our detection models without sacrificing accuracy

RESEARCH EXPERIENCE

ARGO AI

Research Collaborator (supervised by Prof. Deva Ramanan)

Pittsburgh, PA

Sep 2021 – May 2022

- Proposed a novel 3D/4D panoptic lidar segmentation approach for Autonomous Driving, that unifies per-point semantic segmentation with modal object recognition in a single network
- Established a new state-of-the-art on 3D/4D lidar panoptic segmentation benchmarks (first-authored paper is under submission)

HKUST ROBOTICS INSTITUTE

Research Assistant

Hong Kong

Dec 2016 – Sep 2017

- Designed a creative feature recognition method aiming to distinguish different track conditions within 1.5ms, through which our intelligent robots can react at least 20cm ahead with speed increased by 5% and stability enhanced by 10%

SKILLS

Programming Languages Python | C++ | Java | JavaScript | MATLAB | SQL / NoSQL | C

Tools PyTorch | TensorFlow | Caffe | OpenCV | PhotoShop