

Xiao Zhang

Curriculum Vitae

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Research Interests

Here is my key research question: How to advance the development of scalable AI perception systems that can effectively address diverse machine learning issues in naturalistic settings? To achieve this end, I am keen on exploring robust representation learning pipelines that are both flexible and powerful. This entails a comprehensive study of general representation employing methodologies such as optimization, statistics, and high-performance computing systems to overcome challenges presented by defective data (large-scale, unlabeled, and ill-posed).

Areas Representation learning, computer vision, large-scale self-supervised learning, multi-view fused perception, high-performance real-time AI system

Education

09/2019- **The Chinese University of Hong Kong, Hong Kong**

02/2023 Ph.D. in Electronic Engineering. *(Obtained my Ph.D. in 3.5 years)*

Advisors: Prof. Xiaogang Wang, Prof. Hongsheng Li.

09/2013- **Tianjin University, Tianjin, China**

06/2017 B.Eng. in Computer Software Engineering.

Major: Software Engineering; Minor: Finance

First-authored Publications

CVPR21 Refining pseudo labels with clustering consensus over generations for unsupervised object re-identification

Xiao Zhang, Yixiao Ge, Yu Qiao, Hongsheng Li

ECCV20 RBF-Softmax: Learning deep representative prototypes with radial basis function softmax

Xiao Zhang, Rui Zhao, Yu Qiao, Hongsheng Li

- CVPR19 P2sgrad: Refined gradients for optimizing deep face models
Xiao Zhang, Rui Zhao, Junjie Yan, Mengya Gao, Yu Qiao, Xiaogang Wang, Hongsheng Li
- CVPR19 Adacos: Adaptively scaling cosine logits for effectively learning deep face representations **(Oral)**
Xiao Zhang, Rui Zhao, Yu Qiao, Xiaogang Wang, Hongsheng Li
- ICCV17 Range loss for deep face recognition with long-tailed training data
Xiao Zhang, Zhiyuan Fang, Yandong Wen, Zhifeng Li, Yu Qiao

Research Experiences

- 07/2021 - **Research Intern, Nvidia**
07/2022 ○ Worked on self-supervised representation learning with Dr. Charles Cheung.
- 07/2017 - **Computer Vision Researcher, SenseTime Research**
07/2019 ○ Worked on large-scale face recognition with Dr. Rui Zhao and Dr. Junjie Yan
- 07/2016 - **Visiting Student, SIAT, Chinese Academy of Sciences**
07/2017 ○ Advisor: Prof. Yu Qiao

Academic Services

- Journal Reviewer, (20+ times)**
- International Journal of Computer Vision (IJCV)
 - IEEE Transactions on Pattern Analysis and Machine Intelligence (T-PAMI)
 - Neurocomputing
 - Computer Vision and Image Understanding (CVIU)

Conference Reviewer, (Selected)

- 2022 European Conference on Computer Vision (ECCV)
- 2022 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- 2021 IEEE International Conference on Computer Vision (ICCV)
- 2021 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- 2020 European Conference on Computer Vision (ECCV)
- 2020 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- 2019 IEEE International Conference on Computer Vision (ICCV)
- 2019 IEEE International Conference on Robotics and Automation (ICRA)
- 2019 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)
- 2018 IEEE Conference on Computer Vision and Pattern Recognition (CVPR)

Honours and Awards

- 2019-2022 CUHK Research Graduate Fellowship
- 2017-2018 The First Place in 2018 NIST-FRVT 1:N Face Recognition Track
- 2014-2015 Outstanding Undergraduate Scholarship of Tianjin University
- 2014-2015 The First Prize of Intel Cup

Teaching Experiences

Teaching assistant of the following courses at CUHK:

- Fall 2022 ENGG 2030 Signals and Systems
- Spring 2022 ENGG 5202 Pattern Recognition
- Fall 2021 ENGG 2030 Signals and Systems
- Spring 2021 ENGG 2030 Signals and Systems
- Fall 2020 ENGG 2030 Signals and Systems
- Spring 2020 ENGG 2030 Signals and Systems
- Fall 2019 ELEG 5760 Machine Learning for Signal Processing Applications
- Fall 2019 ENGG 2030 Signals and Systems

Technical Skills

Research Tools

- PyTorch, OpenCV, Caffe, OpenGL

Develop Tools

- Model Deploying: Nvidia Triton, TensorRT, NCNN, ONNX;
- Container Tools: Docker, K8S;
- High-Performance Tools: Kafka, Apache Arrow, ROS2, FastDDS, FFmpeg, DeepStream, Apache AirFlow, Jenkins
- Programming: Python, C++, C#, Go