

YINGHAO XU

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RESEARCH INTEREST

My research interests include computer vision and efficient machine learning. I am much interested in vision-based control, learning visual semantics, model compression and its applications. Also, I am interested in the intersection of vision and language. I think interpretability matters a lot. My previous projects covered a variety of topics including model compression, 2D object detection, video understanding, and optimization.

EDUCATION

Zhejiang University, Hangzhou

09/2015 - Present

Bachelor in Information Science, Department of Information Engineering

- **Overall GPA:** 3.93/4.0(91.03/100)
- **Junior Year:** 4.0/4.0(94.89/100)
- **Rank:** 3/171(Rank 1st in Junior Year)
- **Selected Course(4.0/4.0 or top 5%):** Linear Algebra, Calculus, Probability and Stochastic Processes, Discrete Mathematics, Signals and Systems, Computer Program Design, Introduction to Auditory-visual Information System, Fundamental of digital logic and processor, Information theory, Artificial Intelligence

PUBLICATION

- Under Review
 1. Yinghao Xu, Xin Dong, Saiqian Zhang, Hao Su, "LEGO-Function: An Off-the-Shelf Plug-in to Improve Quantized Network Training"
- Publication
 1. Yinghao Xu, Xin Dong, Yudian Li, Hao Su, "A Main/Subsidiary Network Framework for Simplifying Binary Neural Network", In CVPR, 2019

SELECTED PROJECTS

1.Binary Neural Network Pruning

07/2018 - 10/2018

Visual Computing, Advised by Hao Su, To appear in CVPR 2019(First-author)

- Studied binary neural network pruning and proposed a novel learning-based pruning scheme, which works better than previous rule-based method.
- With bottom-to-up algorithm scheme, the pruned neural network outperforms better than initial binary neural network.

2.Optimization for quantized neural network

07/2019 - 10/2018

Visual Computing, Advised by Hao Su

- Proposed a new quantization function for the quantized neural network instead of ste, which can be easily applied to quantized neural network.
- With the new quantization function, consistently outperformed string state-of-the-art baselines, such as X-NOR, Dorefa Net.

3.Video Action Recognition and Video object detection

On going

Microsoft Asia, Visual Computing, Advised by Jifeng Dai

- propose a new framework for action recognition and object detection

4.Facade Parsing

04/2018 - 07/2018

*Zhejiang University, AI lab, Advised by Jianke Zhu, **submitted to T-PAMI***

- propose a novel loss function for facade parsing and get a large gain on this task
- with the regularization, We also propose a method to refine the segmentation results using bounding boxes generated by the Region Proposal Network

RESEARCH EXPERIENCE

Microsoft Asia

11/2018 - Now

Visual Computing, Advised by Jifeng Dai

- Video Action Recognition and Video Object Detection

University San Diego

07/2018 - 10/2018

Visual Computing, Advised by Hao Su

- Binary Neural Network Pruning: Using Learning Based Method, increase the interpretability for quantization Network
- Optimization for Quantization Network: propose a novel quantization function to boost the performance of quantization neural network.

Zhejiang University

09/2017 - 6/2018

Zhejiang University and Alibaba joint AI Lab, Advised by Zicheng Liao, Jianke Zhu

- General Mesh Encoding
- Deep Facade Parsing

HONORS

National Scholarship	2018
Tang Lixin Scholarship	2018
First Class Scholarship For Academic Excellence	2018,2017
Government Scholarship of Zhejiang Province	2017,2016
Meritorious Winner, Interdisciplinary Contest In Modeling(ICM)	2018
First Prize of Mathematics competition of Chinese College Students	2017