Xinglu **Wang**

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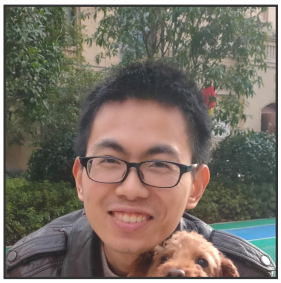

*"I am looking for a PhD position in the **cross-field** research of **meta-learning**."*

Education

Zhejiang University — *HangZhou, Zhejiang*

Information Engineering, M.S. — *Sep. 2018 - June 2021*

- Cum. **GPA**: $90.75/100$, TOEFL: 102 (Reading 29; Listening 28; Speaking 22; Writing 23).
- First author in **two academic papers**.

Zhejiang University — *HangZhou, Zhejiang*

Information Engineering, B.Eng. — *Sep. 2014 - June 2018*

- Cum. **GPA**: $90.21/100$, $3.93/4$, **Ranking** $7^{th}/174$.
- Meritorious Winner, **Interdisciplinary Contest in Modeling** (ICM)
- **First**-Class Scholarship for Outstanding Students

Experience

Harmonized Multi-exit Learning — *Dec 2019–Sep 2020*

Data Science & Engineering Research Center, ZJU — *Master Thesis*

- Multi-exit Learning is a representative approach for adaptive inference, adaptively allocating less computation budget on easy samples, and challenging in the *interference between exits*.
- Then a gradient deconfliction training method is introduced to resolve the resolved the conflicts by gradient projection and consistently boost the performance of all exits. The paper is in the proceedings of **IEEE ICIP20**.
- Through the lens of **meta learning**, a *harmonized weighting scheme* is designed to **meta**-adjust the dense teacher-student distillation relation between exits. The paper is **accepted by AAAI21**.
- The proposed algorithms are evaluated on the large-scale *ImageNet* dataset, leveraging the computation power of **cloud TPU**. *Open source contribution*: identify and report a bug in **pytorch/xla**.

Large-scale Face Recognition — *Oct 2018 - Oct 2019*

Huawei Technologies Co., Ltd, HangZhou — *Algorithm Engineer Intern*

- Large-scale Face Recognition is challenging due to the vast, noisy and imbalanced training data.
- Various novel methods are explored to conquer it: *Adaptive* angular loss on *negative* class, *doppelganger* mining, label denoising by *co-teaching*, and **Single-Path NAS**, with code released at **luzai/InsightFace_Pytorch**. Received an **excellent (top 5%)** rating.
- Participate in the lightweight Face Recognition Challenge of **ICCV19 workshop**, achieve $12^{th}/167$ rank in the iqiyi-light track, via cleaning the training data noise by *Iteratively Training and Refining* and removing the test-time outlier frames
- Crawl the face images of 800K celebrities, and cleanse a subset training data of *128k identities and 8.9M images*. Conduct semi-supervised research and propose Unknown Identity Rejection baseline method.

Person Re-identification — *Oct 2017–June 2018*

Data Science & Engineering Research Center, ZJU — *Undergraduate Thesis*

- From sampling training data, feature extraction, loss design in train phase, to post-procession in test phase, I analyze each component of Person ReID and summarize the experiments into the **technical blog**.
- Based on the model analysis, SE attention mechanism and center loss are introduced to greatly improve the performance.
- Open source contribution: 1). Propose Cython module in KaiyangZhou/deep-person-reid, accelerate the evaluation process by 20 times, become a **building block of many ReID projects**. 2). Fix the bug about the depth of ResNet layer in bearpaw/pytorch-classification, **greatly contribute to fair comparison** of Computer Vision algorithms.

Teacher Assistant — *March 2018–May 2018*

Optimization for Machine Learning Course, ZJU — *TA*

- Design courseworks and projects, including *CNN from scratch*, and *Adversarial example in SVM*.
- Explain the assignments and supplement the lecture in the practice session. Answer questions patiently and comprehensively. Gain recognition and **praise from students**.

Skills

Programming Python, C++, LaTeX, MATLAB, bash
Framework Pytorch, Tensorflow, Caffe, Scrapy

Publication

[1] **Wang, X.** and Li, Y., 2020, October. Gradient Deconfliction-Based Training For Multi-Exit Architectures. In *2020 IEEE International Conference on Image Processing (ICIP)* (pp. 1866-1870). IEEE.

[2] **Wang, X.** and Li, Y., 2021. Harmonized Dense Knowledge Distillation Training for Multi-exit Architectures. Accepted by the *AAAI Conference on Artificial Intelligence*, 2021.

Referrers

Name	Email	Relation
Prof. Zhongfei (Mark) Zhang	zhongfei@cs.binghamton.edu	Founder of our lab, my advisor, HomePage
Dr. Yingming Li	yingming@zju.edu.cn	My advisor
Dr. Xiaojin Gong	gongxj@zju.edu.cn	My teacher of the course Signals and Systems