Jingwen Ye

Nationality: Chinese | Gender: Female | Birth Date: 05/1994
(086)13235810802/(65)88788886 | jingweny@nus.edu.sg | [Github] | [Google Scholar]

Work Experience

Research Fellow, National University of Singapore Oct. 2021 – Present

- Work in LVLab, Department of Electrical and Computer Engineering.
- Advise Prof. Xinchao Wang on privacy-related machine learning, effective model reuse, and dataset condensation.

Research Intern, Alibaba Group Oct. 2017 – Mar. 2019

- Developed a human matting method that was successfully applied in the Taobao APP, resulting in a first-round engagement of 339,187 PV and 82,210 UV.

Research Intern, Alibaba-Zhejiang University Joint Institute of Frontier Technologies (AZFT) Jul. 2017 – Sep. 2021

- Proposed the learning algorithm that supported the recommendation system.
- Received the honor of **Outstanding Intern** in 2019.

Education

Ph.D Student, Zhejiang University Sep. 2016 – Jun. 2021
College of Computer Science and Technology
Outstanding Graduate, Advisor: Prof. Chun Chen and Prof. Mingli Song

B.Eng., Dalian University of Technology Sep. 2012 – Jun. 2016
School of Information and Communication Engineering
Outstanding Graduate, Ranking: *1/35*

Selected Publications

1. **J. Ye**, S. Liu and X. Wang. "Patial Network Cloning." **CVPR 2023**.
2. K. Chen et al. "Improving Expressivity of GNNs with Subgraph-specific Factor Embedded Normalization." KDD 2023 (**Corresponding Author**).
3. **J. Ye**, Y. Fu, J. Song, X. Yang, S. Liu, X. Jin, M. Song and X. Wang. "Learning with Recoverable Forgetting." **ECCV 2022**.
4. **J. Ye**, Y. Mao, J. Song, X. Wang, C. Jin, M. Song. "Safe Distillation Box." **AAAI 2022**.
5. **J. Ye**, Z. Feng and X. Wang. "Flocking Birds of a Feather Together: Dual-step GAN Distillation via Realer-Fake Samples." VCIP 2022. (**Best Paper**)
6. **J. Ye**, Y. Ji, X. Wang, X. Gao and M. Song. "Data-Free Knowledge Amalgamation via Group-Stack Dual-GAN." **CVPR 2020**.
7. **J. Ye**, Y. Jing, X. Wang, K. Ou, D. Tao and M. Song. "Edge-Sensitive Human Cutout With Hierarchical Granularity and Loopy Matting Guidance." **IEEE TIP 2020**.
8. **J. Ye**, Y. Ji, X. Wang, K. Ou, D. Tao and M. Song. "Student Becoming the Master: Knowledge Amalgamation for Joint Scene Parsing, Depth Estimation, and More." **CVPR 2019**.
9. **J. Ye**, X. Wang, Y. Ji, K. Ou and M. Song. "Amalgamating Filtered Knowledge: Learning Task-customized Student from Multi-task Teachers." **IJCAI 2019** (**Oral**).
10. **J. Ye**, Z. Feng, Y. Jing and M. Song. "Finer-Net: Cascaded Human Parsing with Hierarchical Granularity." ICME 2018 (**Oral**).

Academic Service

Journal Reviewer: TPAMI, TIP, SPM, TCYB, TCSVT, PR, TMLR, ...

Conference Reviewer: CVPR, ICCV, ECCV, ICLR, NeurIPS, ICML, AAAI, IJCAI, ...

Research Interest

My current research interests are mainly about **privacy-related transfer learning** and **effective model reusing**. Specially, I focus on the privacy issues on the AIGC models. Also I investigate deeper with knowledge distillation and amalgamation techniques to improve the performance of the multi-task networks.

Awards and honors

Best Paper Award of International Conference on Visual Communications and Image Processing	2022
Outstanding Graduate of Zhejiang Province	2021
National Scholarship (top 2%); Graduate of Merit/Triple A Graduate	2019 & 2020
Excellent Intern of Alibaba-Zhejiang University Joint Research Institute of Frontier Technologise	2020
Candidate of Zhu Kezhen Scholarship (top 1%)	2019
Most Valuable Academic Award of Doctoral Forum	2019
Excellent Social Practice Individual Award	2018
Award of Honor for Graduate	2017 & 2018
Outstanding Graduate of Liaoning Province	2016

Projects

Privacy-related Knowledge Transfer 2021 – Present

- Develop the LIRF framework that explicitly allows for knowledge deposit and withdrawal, to achieve recoverable knowledge forgetting.
- Develop a novel framework, termed as Safe Distillation Box, allowing to wrap a pre-trained model in a virtual box, which precludes unauthorized KDs while strengthens authorized ones.
- Three first-author papers have been accepted to CVPR, ECCV and AAAI.

Adversarial Attack to Self-driving Systems 2023 – Present

- Propose a patch-based attack generation framework for effectively attack the self-driving systems while ensuring the transferability of the attack.
- Simulate the attack in real world e.g. sticker on the stop sign, and then test and proof it.

Efficient GAN Training 2020 – 2021

- Bring forward a general-purpose compression framework for reducing the scale of the generator with the least or none performance degradation.
- A discriminator is constructed based on the realer-fake sets to minimize the teacher and the student distributions in different groups.

Knowledge Transfer from Model Zoo 2019 – 2020

- Propose an innovative knowledge amalgamation strategy for training a compact student using heterogeneous-task teachers specializing in different domains.
- Extend it to data-free amalgamation by utilizing the knowledge media that collects the amalgamated knowledge into the GAN and then passes it through to TargetNet.
- Extend it to self-amalgamation by the hybrid distillation objective composed of self/mutual/outer -distillation objectives to facilitate the training of the student model under no external supervision.

Human-related Learning Algorithm 2017 – 2018

- Propose a loopy hybrid model for joint edge-sensitive human-body parsing and matting, improving the segmentation s.
- Propose an extensible hierarchical segmentation block with hierarchical segmentation granularity, as well as an unsupervised matting module.