Zhengxu Yu

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════════ HIGHLIGHTS ════════

- ▹ Ph.D Candidate, expected March, 2021
- ▹ Overseas study experience
- ▹ CS background
- ▹ Research intern at DAMO Academy Alibaba Group
- ▹ for more than two years
- ▹ Published eight papers (four CCF A class papers) and applied seven invention patents

════════ RESEARCH INTERESTS ════════

My research interests fall in the general areas and applications of Machine Learning and Computer Vision, especially Causal Inference, Graph Neural Networks and Reinforcement Learning to work towards the Representation Learning of Temporal-Spatial data. Please checkout my DBLP page.

════════ EDUCATION ════════

Ph.D in Computer Science and Technology   Zhejiang University, China   *2017/09–present*

- ▹ **Advisers:** Prof. Deng Cai
- ▹ **Research Achievements:** Eight papers (four CCF A class papers), seven invention patents.

MSc. in Information Systems   University of Surrey, UK   *2015/09–2016/11*

- ▹ **Course projects and thesis:**
  - ▹ "Convolutional Neural Networks based Mycobacterium Cells Segmentation for Time-lapse Images" (2015). Proposed a VGG-16 based Image instance segmentation method to segment Mycobacterium Cells in medical images.
  - ▹ "A study of the relationship between house prices and the wealth index across London".

BSc. in Communications Engineering   Jilin University, China   *2011/09–2015/06*

════════ EXPERIENCES ════════

Research Intern   City Brain AIC, DAMO Academy, Alibaba Group   *2018/01–present*

- ▹ Participated in the projects of the 'TianJi'-City Brain and discussion of technical route with other team mates.
- ▹ Participated in and responsible of the design, development of several traffic related core algorithms, including:
  - ▹ Graph Neural Networks based *Traffic forecasting* algorithms. Published one SCI paper and one invention patent.
  - ▹ Reinforcement Learning based *multi-agent Traffic control* algorithm with traffic forecasting information rectification mechanism. Published one CCF A class paper, and one invention patent.
  - ▹ *Stable Learning* algorithm. Published one paper, and one invention patent.
- ▹ Responsible for the design, development of several Peron ReID methods, including:

- Several Person Re-Identification methods for applications with complex conditions e.g., cloth-changing and long-term searching. Published four papers (two CCF A class paper), and three invention patents.
- Participated in the training process of new research interns, helping them revise their research plans and experiments.

AWARDS

- Outstanding postgraduate student in 2019

SKILLS

Python, Pytorch, Tensorflow, Linux

PUBLICATIONS

[1] **Zhengxu Yu**, Zhongming Jin, Long Wei, Jishun Guo, Jianqiang Huang, Deng Cai, Xiaofei He, Xian-Sheng Hua. "Progressive Transfer Learning for Person Re-identification." **IJCAI' 2019** (Acceptence rate: 17.9% (850/4752)).

[2] **Zhengxu Yu**, Shuxian Liang, Long Wei, Zhongming Jin, Jianqiang Huang, Deng Cai, Xiaofei He, Xian-Sheng Hua. "MaCAR: Urban Traffic Light Control via Active Multi-agent Communication and Action Rectification." **IJCAI-PRICAI' 2020** (Acceptence Rate: 12.3% (592/4717))

[3] Liang Xie, Chao Xiang, **Zhengxu Yu**, Guodong Xu, Zheng Yang, Deng Cai, Xiaofei He. "PI-RCNN: An Efficient Multi-sensor 3D Object Detector with Point-based Attentive Cont-conv Fusion Module." **AAAI' 2020** (Acceptence rate: 16.2% (1150/7095))

[4] Long Wei, Zhenyong Wei, Zhongming Jin, **Zhengxu Yu**, Jianqiang Huang, Deng Cai, Xiaofei He, Xian-Sheng Hua. "SIF: Self-Inspirited Feature Learning for Person Re-Identification." **IEEE Trans. Image Processing (TIP)** 29: 4942-4951 (2020)

[5] Long Wei*, **Zhengxu Yu**∗ (**∗Co-first author**), Zhongming Jin, Liang Xie, Jianqiang Huang, Deng Cai, Xiaofei He, Xian-Sheng Hua. "Dual Graph for Traffic Forecasting." **IEEE ACCESS** (2019)

[6] **Zhengxu Yu,** Zhongming Jin, Long Wei Jianqiang Huang, Deng Cai, Xiaofei He, Xian-Sheng Hua. "Progressive Transfer Learning" arXiv preprint (Submitted to IEEE TIP).

[7] **Zhengxu Yu**, Pengfei Wang, Junkai Xu, Liang Xie, Zhongming Jin, Jianqiang Huang, Xiaofei He, Deng Cai, Xian-Sheng Hua. "Stable Learning via Causality-based Feature Rectification." arXiv preprint arXiv:2007.15241

[8] **Zhengxu Yu**, Yilun Zhao, Bin Hong, Zhongming Jin, Jianqiang Huang, Deng Cai, Xian-Sheng Hua. "Apparel-invariant Feature Learning for Person Re-identification." arXiv preprint (Submitted to IEEE TMM)