

# Zhengxu Yu

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## HIGHLIGHTS

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

## 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. Mainly participated in and responsible of the design, development of several traffic related core algorithms, including:
  - ▶ *Graph Neural Networks based Traffic forecasting algorithms*. Published two papers (one CCF A class paper) and two invention patents.
  - ▶ *Stable Learning* algorithm. Proposed five papers (two CCF A class paper) and four invention patents based on the theories of causal inference, graph neural network, and transfer learning, aiming at the critical problems of poor model generalization ability and unstable model performance caused by the long tail distribution and the noisy distribution problems.

- ▶ Participated in the training process of new research interns, helping them revise their research plans and experiments.

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## AWARDS

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- ▶ Outstanding postgraduate student in 2019

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## SKILLS

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Python, Pytorch, Tensorflow, Linux

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## PUBLICATIONS

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- [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** (Acceptance 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** (Acceptance 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** (Acceptance 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-Inspired 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)