

# Zhi Hou

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## Professional Skills

- **Passionating about technology and research, particularly Computer Vision. Experienced in Video Understanding(Activity Recognition), Semantic Segmentation and Facial Emotion Recognition.**
- **Excellent practical abilities: Experienced in Tensorflow, Python, Java. Knowledge in C/C++/JVM/Caffe/Pytorch.**

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## EDUCATION

### **M.Eng.**

- **South China University of Technology**
- Major: Computer Science
- Advisors: Wen Guihua
- 2014/9 - 2017/6

### **B.Eng.**

- **South China University of Technology**
- 2010/9 - 2014/6
- **The First in our class**
- **GAP of major courses 3.76/4.0, Rank 8/136**

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## AWARDS

**Champion, CVPR2018 ActivityNet Moments in Time Challenge(rank 1st)**

**2011-2012 National Encouragement Scholarship**

**2010-2011 National Scholarship**

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## WORK EXPERIENCE

2017/7 - 2018/6 — HIKVISION RESEARCH INSTITUTE

Algorithm Engineer in the pre research team. Mainly responsible for algorithm research. The research involved include **Semantic Segmentation, Graph Neural Network, Video Activity Recognition. Particularly, In ActivityNet2018 Challenge**, the Inception-ResNet 3D model designed by myself achieved the best single model(top1: **35.1%**), while the ensemble result is 38.6%, **well ahead of the second(37.5%)**. Meanwhile, I improved the speed of data IO in the Tensorflow and efficiently accelerated the distributed training of our models(**0.6 step/s to 0.9 step/s**), finally helping our team train more models during one month. For semantic segmentation, I used a few images to train a two-class model to judge the relation(same object or not) between adjacent superpixel blocks generated by boundary segmentation, finally converting boundary segmentation to semantic super-pixel segmentation successfully and perfectly. And the generalization of this method is awesome due the use of boundary.

2017/2- 2017/3 — ByteDance

Work as an Android engineering intern for Huoshan App(火山小视频)

2016/7 - 2016/9 — Baidu

Du Booster product team's Android R&D engineering intern. Responsible for product development and optimization. The experience of resolving the bugs of tens of millions of users' product is full of challenge and really improved my practical ability to analyze and solve programming problems: **improving the running speed of program and fixing the occasional bugs.**

2014/5- 2014/7 — Shenzhen institute of The Chinese University of Hong Kong.

Software testing Research Assistant in Prof. Michael R. Lyu's team, collaborating with by Dr Kang Yu.

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## PUBLICATIONS

1. Wen G, Hou Z, Li H, et al. Ensemble of deep neural networks with probability-based fusion for facial expression recognition[J]. Cognitive Computation, 2017, 9(5): 597-610
2. Li D, Wen G, Hou Z, et al. RTCRelief-F: an effective clustering and ordering-based ensemble pruning algorithm for facial expression recognition[J]. Knowledge & Information Systems, 2018:1-32.
3. Dong M, Hou Z, Liu Z, et al. Design and implementation of behaviour detection system for the elderly based on smart phone[C]// IEEE International Conference on Robotics and Biomimetics. IEEE, 2012:1741-1746.