Xiaomin Wu

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PROFESSIONAL EXPERIENCE

Bitmain   *Mar 2018 - Jan 2019*
AI algorithm engineer, Reason for leaving: Optimization of corporate structure   *Beijing*

- Project 1: Face Recognition Competition of Hubei Province
  - Background: There are 140 million different Chinese identities' ID card photo in the gallery set of the competition's test-set，and the probe set are photos captured by surveillance cameras from different Chinese identities. The Test phase is similar to megaface but with an open-set mode. We competed with SenseTime, Face++, CloudWalk and many other excellent companies.
  - My responsibility: With the help of colleagues, **I improved the top 1 accuracy from 70% to 95%** in our own test-set which consists 200 thousands different Chinese Identities' ID card photos in the gallery set. During the project, **I proposed a patent(China) related to face recognition under monitoring scenario.**
- Project 2: PeaceNet Security Platform
  - Background: There are many functions including face recognition, face attribute, person re-identification, and pedestrian detection and so on in our platform. Our platform is deployed in Fuzhou Public Security Bureau for testing.
  - My responsibility: Responsible for the module of face recognition in face tracking, face search tasks. Also responsible for face quality assessment task. **I proposed a patent(China) related to face quality assessment during the project.**
- Project 3: Intelligent terminal of 3D face recognition
  - Background: We want to combine the depth and the rgb informations for face recognition, but now we prefer to only using the depth informations for face recognition, which is not easy. it is not only because of the lack of depth data, but also the algorithm is deployed on our own AI chip which is named Sophon. We have signed a purchase contract with the bank.
  - My responsibility: Responsible for depth completion. I proposed a method based on <<In Defense of Classical Image Processing: Fast Depth Completion on the CPU>>, which solved the problem well, and **also ported python to c++ then our algorithm can be deployed on our own AI chip which is named Sophon.**

SeetaTech   *Jul 2017 - Mar 2018*
AI algorithm engineer   *Beijing*

- Worked as a full-time AI algorithm engineer advised by Dr.Jie Zhang and Prof.Shiguang shan.
- My work at SeetaTech is mainly focus on Face Recognition:
  - We have tried SEnet, DPN, Resnet and many other networks, Also we have tried Arcface, cosloss, centor-loss,triplet-loss and many other losses.
  - I also studied the open-set, large-pose, one-shot and many other works related to face recognition under supervision of Dr.Jie Zhange and Prof.Shiguang shan.
  - I also used the SeetaFace's c++ API to generate the face recognition datasets under surveillance scene.
- **We got the second place in Megeface Challenge 1 that time. we have got a toolkit for dataset generation and some datasets under surveillance scene.**

Tusimple   *Jul 2016 - Oct 2016*
research intern   *Beijing*

- Worked as a full-time intern advised by Dr.Naiyan Wang. Responsible for road segmentation task, The work we proposed is based on DeepLab and Enet with some improvements made by ourselves.
- We got **all four first prizes in KITTI road segmentation competition** at that time. Also our academic paper is **accepted by 2017-ICRA conference.**

EDUCATION

China University of Petroleum(East China)   *Sep 2013 - Jul 2017*
Bachelor   *Qingdao, Shandong*

TECHNICAL ACHIEVEMENTS

Papers -- All accepted

- Self-paced cross-modality transfer learning for efficient road segmentation
  - Weiyue Wang , Naiyan Wang , **Xiaomin Wu**, Suya You, Ulrich Neumann
  - 2017 IEEE International Conference on Robotics and Automation
- Deep learning in remote sensing scene classification: a data augmentation enhanced convolutional neural network framework
  - Xingrui Yu , **Xiaomin Wu** , Chunbo Luo & Peng Ren
  - 2017 GIScience & Remote Sensing

Patens(China) -- All as the first inventors

- Tea sprout detection method based on deep learning and image edge information -- Review-practical review
- Face image quality evaluation method, device and storage medium -- Completed the company internal review, Submitted to the Patent Office for application
- Face recognition based processing method, device and readable storage medium -- Completed the company internal review, Submitted to the Patent Office for application

MISCELLANEOUS

- **Skills:** Computer Vision, Deep Learning, Machine Learning, Nature Language Processing
- **Computer Languages:** Python, C++
- **Learned Courses Online:** 1)machine learning; 2)UFLDL; 3)Convolutional Neural Network for Visual Recognition; 4)Deep Learning for Nature Language Processing.
- **Interests:** Swimming, Coding, Fitness, Playing basketball