

# Xiaomin Wu

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## PROFESSIONAL EXPERIENCE

### Bitmain

Mar 2018 - Jan 2019

#### AI algorithm engineer

Beijing

- Project 1: Hubei Public Security Bureau Face Recognition Competition
  - Background of the project: 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.
  - Personal accusation: With the help of colleagues, **I improved the top 1 score 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 of the project: There are many functions including face recognition, face attribute, person re-identification, Motor vehicle, non-motor vehicle and pedestrian detection and so on in our platform. Our platform is deployed in Fuzhou Public Security Bureau for testing.
  - Personal accusation: 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: 3D face recognition device
  - Background of the project: 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 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.
  - Personal accusation: 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 provide the corresponding c++ codes which 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 most 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 Zhang 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, Also 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 ourself.
- **We got all four first prizes in KITTI road segmentation competition** at that time. Also our work 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**, Suyu 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