

Zhiwen Chen

Computer Vision Engineer

Contact

(+86) 152 6815 8119
czwxian@163.com
LinkedIn://zhiwen-chen

Languages

English, Mandarin

Programming

★ C++, Python,
C, C#, Java,
LaTeX

OS & Tools

Windows, Mac, Linux,
Powerpoint, Keynote,
Visual Studio, Xcode,
Git, Matlab,
OpenCV, GPUImage,
Caffe, TensorFlow,
NCNN, AliNN

Skills

Image Processing,
Computer Vision,
Machine Learning,
Deep Learning,
Convolutional Neural
Network

Education

National University of Singapore, Singapore

Master of Computing, specialized in Computer Science

2012-2013

Shanghai Jiaotong University, China

Bachelor of Science in Engineering, specialized in Computer Science and Technology

2008-2012

Experience

2017 - now **Alibaba Group - Taobao (China) Software Co., Ltd.**

Hangzhou, China

Taobao Technology Department - Multimedia Algorithm - Senior Algorithm Engineer

- Research and develop algorithms on deep learning-based human body keypoint detection and hand gesture recognition. And use these algorithms to support applications in "Taobao Live" and "Taobao Short Video".
- Implemented a small and efficient network for human body keypoint detection on mobile device. In comparison to the industry benchmark — Openpose, our network was about 160 times faster and 100 times smaller than it while kept almost the same accuracy.
- Implemented an extremely efficient network for hand detection, gesture recognition and hand keypoint regression. When compared to the industry front-runner — SenseTime Hand SDK, our network gave a 5% accuracy boost while maintained the same processing speed.
- Established a computer vision SDK — PixelAI, which contains face detection, hand gesture recognition, human body keypoint detection, portrait segmentation, etc. PixelAI has been widely used in Taobao and other business units of Alibaba Group.

2013 - 2016 **Trakomatic Pte Ltd**

Singapore

Video Analytic Researcher

- Research and develop on all the video analytic applications.
- Built a reliable people detection and counting system. And integrated several biometric recognition applications (e.g. face recognition, facial age estimation and facial gender classification) into it. Furthermore, designed and completed a robust human tracking system.
- The people detection and counting system along with the biometric recognition applications was accredited in accordance with the established Accreditation@IDA requirements for the defined scope in May 2015.
- Achieved 8th Place in the Video Analytics Tech Challenge 2015 hosted by Infocomm Development Authority of Singapore (IDA). And this tech challenge was mainly about pedestrian detection and tracking in crowded scenes.

2012 - 2013 **National University of Singapore**

Singapore

Master Student

- Implemented multiple projects in Dr. Michael S. Brown's "Computational Photography" course.
- Built a unique method for "Extended Depth of Field using Focal Stacking" in Matlab. With this method you could take a lot of images with varying focus and combine them into an all-in-focus image. Also implemented the "Poisson Image Editing" project using OpenCV libraries. In this project, you could paste any image into another background image with natural result. Besides, other projects were related to topics like tone-mapping for high dynamic range images, de-blur images, etc.
- Developed an interest in Computer Vision through all these projects.

- 2011 - 2012 **Advanced Network Lab in Department of Computer Science and Engineering, Shanghai Jiaotong University** Shanghai, China
Undergraduate Student
- Researched on privacy preservation algorithms in recommender systems.
 - Applied algorithms (e.g. k-anonymity, l-diversity and t-closeness) to old recommender systems (e.g. Netflix Recommendation System) and created a new privacy-preserving recommender system.
 - This new system made accurate recommendations without revealing legitimately compiled useful information to third parties.
- 2011 **TouchPal HK Co., Ltd** Shanghai, China
Software Engineer Intern
- Participated in the development of a mobile keyboard app (a free keyboard app for Android & iOS), especially its logical middle layer.
 - Made the logical middle layer possible to provide the best feature of this app – contextual prediction. Also made this feature faster and more reliable.
 - This mobile keyboard app won "Google Play Best Apps of 2015".
- 2009 - 2010 **"Image-based facial skin color classification algorithm for traditional Chinese medicine diagnosis", Participation in Research Program, Shanghai Jiaotong University** Shanghai, China
Undergraduate Student
- Developed dimension reduction and classification algorithms in this project.
 - Collected thousands of facial images and classified them with the help of experts in traditional Chinese medicine. Then principal component analysis (PCA) and linear discriminant analysis (LDA) were chosen to do the dimension reduction work for these raw images and support vector machine (SVM) was picked as the final classifier.
 - This facial skin color classifier achieved 90%+ accuracy on the test dataset. Moreover, it provided practical advice for experts in traditional Chinese medicine on their clinical diagnoses.
- 2009 - 2010 **Expo 2010 Shanghai, Toray Cup Shanghai International Marathon and other volunteer activities** Shanghai, China
Volunteer
- Improved communication and organizational skills in a variety of volunteer activities, also developed a hard-working attitude.
 - Participated in Expo 2010 Shanghai as a volunteer and won the Volunteer Contribution Award.

Awards

- 2015 8th Place in IDA Video Analytics Tech Challenge Singapore
- 2010 Volunteer Contribution Award of Expo 2010 Shanghai (top 3%) Shanghai, China
- 2009, 2010 Academic Excellence Scholarship of Shanghai Jiaotong University Shanghai, China