ZUJIE LIANG

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🎓 EDUCATION

Sun Yat-Sen University (SYSU), Guangzhou, China   2019 – Present
M.S. in Information and Communication Engineering, expected June 2022

Wuhan University of Technology (WHUT), Wuhan, China   2015 – 2019
B.S. in Information and Communication Engineering

👥 EXPERIENCE

MOMO TECHNOLOGIES CO., LTD. Beijing, China   Apr. 2019 – Sept. 2019
Computer Vision Algorithm Engineer Intern   Deep Learning Lab

Brief introduction: Deep Learning models on Narrowband HD System, Algorithm deployment using TensorRT, No-Reference(Blind) **Image Quality Assessment** Algorithms

- Optimized the face keypoint detection model(Linear Regression) with Data Augmentation and merged it into the online version
- With the **TensorRT** framework, the **CAFFE** models of face detection(Faster R-CNN) and face keypoint detection were optimized to forward in FP16 mode. Among them, the face detection model was optimized from the original **100fps** to **1000fps**. Finally both model was merged into the online version
- Helped Building No-Reference(Blind) **Image Quality Assessment** Algorithms by ensembling three SoTA Algorithms with several tricks for comparison with competitive products

HUAWEI TECHNOLOGIES CO., LTD. Wuhan, China   July. 2018 – Aug. 2018
Software Development Engineer Intern   Consumer Business Group

Brief introduction: Optimized the troubleshooting engine of HUAWEI's cellphones to obtain more accurate failure results and maintenance advice

- Optimized maintenance fault detection setting, add fault tree weighting algorithm to obtain more accurate fault results and maintenance advice, Java codes are about 1000 lines
- Got an offer to be a formal employee

Ⓟ PROJECTS

Person Search by Language Seoul, South Korea   July. 2019
Python, Linux   ICCV 2019 Wider Challenge

Brief introduction: Aims to seek new approaches to search person by natural language.
- Built CMPM+CMPC model as baseline (valset Top1: **36.339%**, valset2 Top1: **13.363%**)
- Added BLOCK fusion features, trained with ID loss (valset Top1: **38.532%**, valset2 Top1: **14.314%**)
- Added Ranking Loss and Random Erasing Data Augmentation (valset Top1: **43.583%**, valset2 Top1: **17.718%**, Final testset Top1: **11%**)
- **5**[th] place in ICCV 2019 Wider Challenge Track Four, invited for poster demonstration

Smart Swimmer Detection Beijing, China   May. 2019
C++, Python, Linux   National Aquatics Center (Water Cube)

Brief introduction: A smart system built with Computer Vision Technologies to help detect and recognize the swimmer, calculate and record the exercise data

- Built a robust and fast recognition model, accuracy from **70%**(YOLOv3-tiny) to **99.5%**(Resnet with tricks)
- Deployed Pytorch model and developed **C++** forward API with Pytorch C++ frontend to merge the code with **darknet** framework

Advanced Driving Assistance System Shenzhen, China   Sept. 2019 – Dec. 2019

C++/C, Python, Linux   Lab-Eenterprise Cooperative Project

Brief introduction: The system can monitor the fatigue degree (yawn detection, eye closure detection, *etc.*) of the drivers and their driving behavior (smoking detection, phone call detection, face recognition, face keypoint detection, *etc.*) so as to warn the drivers and correct the wrong driving behavior.

- Built appropriate models for near-infrared image data
- Deployed multiple models (LightCNN, LFFD, YOLOv3, *etc.*) into on-chip model files based on **Hisilicon(Hi3559A)** chip (TensorFlow/Pytorch -> caffe -> on-chip models) and refactoring the code (algorithm logic, post-processing, *etc.*) to a C++ version

♡ Honors and Awards

5th place, ICCV 2019 Wider Challenge Track Four, invited for poster demonstration   2019
1st class, Academic Excellence ScholarShip of SYSU   2019
3rd prize, National University Student Science Contest on Energy Saving & Emission Reduction   2018
3rd class, Academic Excellence ScholarShip of WHUT   2017
3rd class, Academic Excellence ScholarShip of WHUT   2016

⚙ Skills

- Programming Languages: Python, C++/C, Java, Matlab
- Platform: Linux

ⓘ Miscellaneous

- Blog: http://jokieleung.github.io
- GitHub (about **200** STARs): https://github.com/jokieleung
- Zhihu (about **100** COLLECTs and **50** LIKEs): https://zhihu.com/people/jokieleung
- Linkedin: https://linkedin.com/in/leung-jokie-0b7b55158
- Languages: **English** - Fluent, **Chinese** - Native speaker