Yu Chen

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Work Experience

Localization team, Black Sesame Technologies, Inc — *San Jose, CA*

Full-time Software Engineer in AI — *Jul. 2018 - Current*

- Coding more than 40 k lines with C++, Python, Docker, Shell, Go, ROS, PCL etc.
- One mapping US patent submitted and one conference paper about deep localization submitted to CoRL2019
- Localization Pipeline: design different perception model training with ML and DL like depth estimation, pose estimation in prior 3D map with accuracy in 10 cm. Build data collection, sensor calibration and design new model for localization.
- Mapping Pipeline: semantic and sensor fusion visual SLAM. LiDAR Camera Fusion mapping. Visual SLAM with trajectory error 0.005. Different sensors and inter-calibration (Camera, IMU, LiDAR, GPS)

Machine Intelligence Lab, Alibaba — *Hanzhou, China*

Research Intern in Artificial Intelligent — *May. 2017 - Aug. 2017*

- Designed the hardware architecture for Convolution Neural Network inference with compressed model, to make artificial intelligence program running on a mobile device faster.
- Implemented the CNN accelerator by C++ on CPU and HLS on Xilinx FPGA(10x speed up).
- Promoted the development of intelligent edge computing for company, as a result, more resources are put into the project and got return offer.

Rockchip Co. Ltd — *Fuzhou, China*

Research Intern in Error concealment(video decoding) — *Aug. 2015 - Apr. 2016*

- Invented and implemented a computationally efficient error concealment algorithm with C/C++, to address the video packet loss during network transmission. The algorithm got best result in PSNR and SSIM compared to other methods.
- Awarded patent as primary inventor 201610139528.6： an error concealment method and device based on MVE.
- Conclusion paper: An Efficient Error Concealment for Whole Frame Loss with Violent Motion, click here

Education

Carnegie Mellon University(CMU) — *Pittsburgh, PA*

MS in Electrical and Computer Engineering — *Aug 2016 - May 2018*

- GPA: 3.72/4.0
- Research domain： reinforcement learning, deep learning
- Courses： 10-703: deep reinforcement learning \18-752: estimation,detection and learning \18-899:data analysis \11-611:natural language processing\16-720:Computer Vision \11-642: Search Engine\10-601:machine learning\18-746:Storage System\18-675:How to Write Fast Code\18-600:Foundations of Computer Systems

Sun Yat-sen University(SYSU) — *Guangzhou, China*

BE in Software Engineering — *Aug 2012 - June 2016*

- Outstanding Graduate, graduate thesis was awarded as outstanding school thesis(ranked 4/256), GPA Top 10.
- Sun Yat-sen Outstanding Student 1st Prize twice, 2nd Prize once.
- 2014, Sun Yat-sen University **ACM-ICPC** Coding Competition'2nd Prize

Skills

Familiar

- C/C++, Python, ROS, Deep learning, Machine Learning, CUDA, Matlab, FPGA.

Experienced

- TensorFlow, PyTorch, Java, Go, OpenMP, Hadoop, HLS.

Algorithms

- Deep learning in computer vision including pose estimation, depth estimation, object detection. Deep reinforcement learning. NLP including search engine implementation with Lucene