Yuwei (Victoria) Qiu

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Education

Carnegie Mellon University, School of Computer Science **Pittsburgh, PA**
Master of Computational Data Science (MCDS), CGPA - 4.0/4.0 *08/2018 - 12/2019(Expected)*
- *Relevant Coursework*: Introduction to Computer System.

Tsinghua University, Department of Electronic Engineering **Beijing, China**
Bachelor of Engineering, CGPA - 3.8/4.0 *08/2014 - 07/2018*
- *Relevant Coursework*: Data Structure & Algorithms, Machine Learning, Operating System, Computer Architecture.
- *Exchange Program*: University of Pennsylvania, Department of Computer and Information Science.

Experience

Software Engineer Intern **Huawei Technologies**
Offline End-to-End Text Recognition System *11/2017 - 01/2018*
- Cooperated with a group to construct an offline text recognition system utilizing multi-pathway CNNs and statistic conditional random field models with Caffe.
- Boosted accuracy to 96.8% on the 20GB CMCC Database with over 20 million training/validation samples.
- Resulted in the work being used in smart phone products as artificial intelligence tools.

Research Intern **Tsinghua University**
Interactive System for Human-Centered Data Collection and Analysis *12/2016 - 06/2017*
- Led a group in developing an interactive system using MATLAB and C++ for 1,280 sets of eye tracking experiments with over 1,000 candidates.
- Proposed and implemented an unsupervised learning approach with Caffe to generate newly defined features.
- Contributed to a **first-authored paper**, accepted as **oral presentation in *ICIG 2017***.

Projects

Context Retrieval from GoPro Videos: Multimedia, PyTorch **University of Pennsylvania | 07/2017**
- Designed advanced LSTM merged with traditional Multi-View Stereo algorithms for sequences processing.
- Established a system for 3D context reconstruction from a 12GB data set of blurry and narrow ego-centric videos.
- Obtained The Outstanding Undergraduate Research Award *(top 1%)*.

Multilabel Image Classification API: ML/DL, MXNet **Tsinghua University | 03/2018**
- Developed residual learning models to concatenate deep neural networks including DPN and FPN.
- Created an Application Programming Interface(API), increasing precision by 2.2% and 1.3% compared to the-state-of-the-art method on 1.5GB PASCAL VOC 2012 and 20GB MSCOCO 2014 respectively.

Facial Emotion Recognition: Vision, Caffe **Tsinghua University | 04/2017**
- Established deep networks based on various data sets including VGG-Face dataset, FER2013 public Test, FER2013 private Test and CK+.
- Achieved a mean average accuracy of 92.4% exceeding the-state-of-art frameworks.

32-bit CPU Design and Implementation: Architecture, assembly **Tsinghua University | 04/2016**
- Designed on an Altera FPGA and programmed with assembly languages including MIPS.
- Implemented a 32-bit pipeline MIPS CPU to execute basic commands and communicate with portable computers.

Dynamic Memory Allocator Package: System, C **Carnegie Mellon University | 06/2018**
- Built a dynamic allocation system with segregated free list and best fit searching with an average utilization of 74.4%.
- Achieved a throughput of 15735 Kops/sec on a CPU@3.10GHz machine with a benchmark throughput of 16920 Kops/sec.

Skills

Programming: C/C++, Python, MATLAB, Java, HTML, Linux, assembly languages(IA32, x86-64)

Tools: MXNet, Caffe, PyTorch, TensorFlow, AWS, Microsoft Azure, Google API

Publications

- Qiu Y., Ma H., Gao L. (2017) Hardness Prediction for Object Detection Inspired by Human Vision. In: Zhao Y., Kong X., Taubman D. (eds) Image and Graphics. ICIG 2017. Lecture Notes in Computer Science, vol 10667. Springer, Cham