Yuwei (Victoria) Qiu

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Education

Carnegie Mellon University, School of Computer Science — **Pittsburgh, PA**

Master of Computational Data Science (MCDS), ***GPA - 4.0/4.0*** — *08/2018 - 12/2019(Expected)*

- *Relevant Coursework*: Introduction to Computer System, Introduction to Machine Learning, Large-scale Machine Learning.

Tsinghua University, Department of Electronic Engineering — **Beijing, China**

Bachelor of Engineering, ***GPA - 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

Trajectory Prediction From GoPro Videos: Multimedia, PyTorch — **University of Pennsylvania | 07/2017**

- Advised by **Proj. Jianbo Shi** in **GRASP Lab of Penn**.
- Implemented advanced LSTM merged with Siamese Neural Network for visual semantics learning and trajectory prediction.
- Established a system for 3D context reconstruction from a **12GB** data set of blurry and narrow ego-centric videos.

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 **60GB** 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.

Analyze Wiki Dataset with MapReduce: Cloud Computing, Java — **Carnegie Mellon University | 09/2018**

- Implemented MapReduce program to process and aggregate the 30-day wiki dataset (**36GB** compressed).
- Used Terraform to configure, deploy, execute and debug MapReduce jobs on AWS EMR.

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 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