Wuwei Cai

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EDUCATION

Zhejiang University *B.S. in Computer Science and Technology* **GPA:** 3.81/4.00 09/2013-06/2017
University of Southern California *M.S. in Computer Science* **GPA:** 3.86/4.00 01/2018-08/2019

WORK EXPERIENCE

Distributed Training of ReID Model for Vehicle with Massive IDs
Intern, *HUAWEI Technologies Company* 05/2018-08/2018

- Learned ***deep learning*** frameworks, such as ***Tensorflow***, ***MXNet*** and ***PyTorch***; Tried to convert models from one framework to another.
- Trained model on one machine with 8 GPUs using data parallelism algorithm.
- Trained model on four machines, each with 8 P100 GPUs, using hybrid algorithm, mainly focusing on Fully-connected layer and Softmax layer.

Optimization of Target Detection and Tracking Algorithm
Intern, *HUAWEI Technologies Company* 07/2016-09/2016

- Optimized GPU performance for target detection and developed tracking algorithm in surveillance system.
- Trained the features and classifier utilizing ***Real AdaBoost*** Learning algorithm based on region partition; detected targets with trained cascade detector.
- Decreased the frame processing time from 20ms to 2.5ms; ported program from CPU to GPU through ***CUDA***.

PROJECT EXPERIENCE

Development on a tiny search Engine
Individual, University of Sothern California 10/2018-11/2018

- Learned how search engines work and how to crawl websites efficiently.
- Wrote a ***web crawl*** to get some webpages and use ***Hadoop*** on Google Cloud Platform to create inverted index.
- Developed a tiny search engine based on ***Solr***; enhance the search engine with some useful functions like spelling correction, auto-complete and snippets.

Implementation and Application of Classical Machine Learning Algorithms
Individual, University of Southern California 9/2018-10/2018

- Learned classical machine learning algorithms, such as *regression*, *SVM*, *PCA*, *neural networks, GMM, Q-learning, etc*.
- Implemented learned algorithms with ***Matlab*** or ***Python***, and applied these algorithms and models to actually problem such as follower classification and car license recognition.
- Compared the results of different algorithms on the same dataset.

Development on a Mock Stocking Trading System
Leader, Zhejiang University 04/2016-05/2016

- Led one of the six subgroups and took responsibility for one of the six subsystems named “stocking trading subsystem”; completed corresponding software requirement specification and wrote design pattern document, user interface document, and test specification.
- Used ***Java Spring*** framework to development stocking trading subsystem and made it work well in the whole stocking trading system.

SKILLS & OTHERS

- **Programming languages**: C, C++, Python, Java, PHP, JavaScript, C#, SQL, Swift, etc.
- **Fundamental skills**: Data structure, algorithms, databases, Unix-like operating systems, etc.
- **Other skills**: Front-end development, back-end development, information retrieval, web crawling, data mining, machine learning, computer vision, distributed and parallel systems, etc.