Chenghao Zhang

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Education

Dual Degree Program

Carnegie Mellon University, Pittsburgh, PA / Sun Yat-Sen University, Guangzhou, China May 2018

- Master of Science, Electrical and Computer Engineering, GPA: 3.8/4.0
- Courses: Deep Learning, Computer Vision, Machine Learning, Computer Graphics, Statistical learning, Speech Recognition, How to write fast code, Foundations of Computer Systems

Sun Yat-sen University July 2016

- Bachelor of Science, Computer Science, GPA: 3.7/4.0
- Courses: Data Structure, Operating System, Graph Theory, Software Engineering, Database

Academic Research Experience

Carnegie Mellon University, Department of ECE, Pittsburgh, PA Jan. 2018 – present

Research Assistant, Parallel Data Lab

Machine Learning over non-i.i.d. data partitions

- Used BSP method to train deep learning methods on several independent data servers and get an overall model on ImageNet.

Sun Yat-Sen University, School of Electronics and Information Technology, Guangzhou, China Sept. 2016 – July 2017

Research Assistant, SMIIP Lab

Autism Children Behavior Analysis

- Used Object detection (YOLO), Action Recognition (Two-stream convolutional neural network) to build an Autism Children Behavior Analysis system.

Sun Yat-Sen University, School of Computer Science, Guangzhou, China Feb. 2015 – June 2017

Research Assistant, Intelligence Science and System Lab

Large-Scale Machine Learning

- Proposed a novel multi-view semi-supervised hashing method for fast image search. Achieved state-of-the-art precision and error rate among semi-supervised methods on dataset CIFAR-10, WIKI, NUS-WIDE and ImageNet.
- Proposed a novel deep-learning approach on supervised hashing methods. Achieved 95% accuracy on CIFAR-10.

Projects

Automatic Speech Recognition System Design (C++) – CMU Sept. 2016 – Jan. 2017

- Used C/C++ and Kaldi to build an automatic speech recognition system to recognize continual digits.
- Used Gaussian Mixture Model, Hidden Markov Chain Algorithm. Attained 3.7% sentence error rate.

Dynamic Storage Allocator – Malloc lab (C++) - CMU Oct. 2017 – Nov. 2017

- Wrote a dynamic storage allocator for C programs, which implemented malloc and free functions.
- Used segregated list to reduce the external fragmentation. Achieved excellent results in utilization and throughput.

Internships

Accenture China - Management Consulting – Guangzhou, China Mar. 2016 – July 2016

- Built mathematical models to evaluate annual performance of branch companies more efficiently.
- Processed financial data on Excel and Python platform to get the self-evaluation model of China Southern Power Grid Company.

Soouya Entrepreneurial Team, Member May 2014 – Mar. 2015

- Participated in entrepreneurial stage, developed an online APP on Android platform: www.soouya.com

Publications

Semi-supervised Multi-view Discrete Hashing for Fast Image Search. IEEE Transactions on Image Processing, 2017 (DOI: 10.1109 / TIP.2017.2675205)

Response to Name: A dataset and A Multimodal Machine Learning Framework towards Autism Study. 2017 Seventh International Conference on Affective Computing and Intelligent Interaction(ACII)

Skills

- Programming Skills: C/C++, Python, Matlab, Android, CUDA Deep Learning Platform: Caffe, Pytorch