Guohang Zeng

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RESEARCH INTERESTS

Computer Vision, Machine/Deep/Statistical Learning, CNN Acceleration, Interpretability of Deep Learning

EDUCATION

Shenzhen University Shenzhen, China
Bachelor of Engineering in Computer Science(Honor Program); GPA: 3.67/4.16 *Sep. 2012 – July. 2016*

EXPERIENCE

Institute of Computer Vision, Shenzhen University Dec 2015 - Present
Research Assistant, Adviser: Prof. Linlin Shen

- **Facial expression recognition**: by using our proposed hand-crafted feature guided network and deep metric learning, we achieved state of the art result on the CK+ dataset.(upon review)
- **Face recognition with single sample per person**: we achieved state of the art results on several datasets by using our proposed sparse representation based classifier and convolutional neural network. Paper has been accepted by *Pattern Recognition*

Taisau Jun 2016 - Present
Computer Vision Engineer

- **Deep representaion for face recognition**: implemented CNN models for high accuracy face recognition, combined with various state of the art approaches, including: age-invariant face representation, deep metric learning, Inception-Residual CNN architecture, joint-bayesian metric, CNN ensemble and domain adaptation.
  Our algorithms have been deployed to a number of security systems including the access control system used by Shenzhen Government. (report)
- **Convolutional neural network acceleration**: accelerating CNN models by using various approaches, including: depthwise separable convolution, low rank approximation and structural network pruning. We achieved 1.6x to 2.0x speedup ratio depends on network architecture.
- **Lane markings detection**: implemented algorithms for detecting lane markings based on hand-crafted feature. It's used to recognize traffic violations. Our algorithms has been adopted by the Shenzhen Transport Department.

National High Performance Computing Center at Shenzhen Dec 2013 - Nov 2014
Research Student, Adviser: Prof. Rui Mao

- **Metric space indexing algorithm**: optimized data query performance in a metric space databases system by designed and implemented a novel indexing algorithm.

PUBLICATIONS AND TECH REPORTS

1. **Guohang Zeng**, Jiancan Zhou, Xi Jia, Weicheng Xie and Linlin Shen, "Hand-crafted Feature Guided Deep Learning for Facial Expression Recognition", submitted to *International Conference on Face and Gesture Recognition(**FG 2018**)*

2. Meng Yang, Xin Wang, **Guohang Zeng** and Linlin Shen, "Joint and collaborative representation with local adaptive convolution feature for face recognition with single sample per person", in ***Pattern Recognition**, 2017, 66(C):117-128.*

HONORS AND AWARDS

Second-class Scholarship for Academic Performace (Top 6%) 2012-2013
First-class Scholarship for Academic Performace (Top 1%) 2013-2014
Loongson Scholarship 2013-2014

SKILLS

Programming Python, C/C++ , Java , Matlab
Technologies Caffe, PyTorch, OpenCV, OpenMP, Linux