SHI QIU

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EDUCATION

The Chinese University of Hong Kong *August 2010 - September 2014*
Doctor of Philosophy, specialized in Computer Vision, GPA: 3.98/4.0
Supervisor: Prof. TANG, Xiaoou, Co-supervisor: Prof. WANG, Xiaogang
Dissertation: Visual Semantic Complex Network for Web Images
Real-world applications: image search/re-ranking, image classification, image visualization

Tsinghua University, Beijing *August 2005 - July 2009*
Bachelor of Engineering, Electronic Engineering, GPA: 93.4/100
Coursework: Programming in C/C++/Java, Data Structures, Introduction to Computer Systems, Probability, Stochastic Process, Digital Signal Processing, Information Theory

EXPERIENCES

SenseTime Group Limited September 2015 - Present
Research Scientist *Hong Kong*

- Researched deep learning algorithms for product detection, recognition and search
- Developed CNN models that can detect clothes from images and predict over 40 attributes
- Designed the entire data-collection and data-labelling plans
- Applied compression techniques to CNNs and achieved 3x speedup with a negligible accuracy drop
- Implemented the test-stage pipeline with Caffe and Eigen

The Chinese University of Hong Kong November 2014 - September 2015
Postdoctoral Fellow *Hong Kong*

- Researched deep learning-based generic object detection algorithms
- **1st runner-up** in the ImageNet Challenge 2014 (Achieved 40.7 MAP in the detection track)
- Explored and designed strategies for training Convolutional Neural Networks (CNNs). Studied and optimized network structures, initialization guidelines, and methods for data preparation/augmentation
- Customized Caffe to implement strategies for training large CNNs with limited GPU memory as well as implement layers for supporting sophisticated training objectives

The Chinese University of Hong Kong August 2010 - September 2014
Research Assistant *Hong Kong*

- Researched approaches for improving web image search/re-ranking by mining semantic concepts
- Developed methods to mine semantic clusters from image search results, jointly using textual and imagery data. Designed query-specific discriminative features by projecting images to semantic clusters with multiple-class SVM, and improved image re-ranking accuracy
- Proposed to model the relationship of semantic clusters with a K-NN graph and integrate it into the search pipeline using a random walk framework, significantly boosting the recall rate

Microsoft Research Asia December 2009 - June 2010
Research Intern *Beijing*

- Explored methods for automatic clustering of image search results.

University of Southern California July 2008 - August 2008
Research Intern *Los Angeles*

· Project: Human activity classification and health monitoring
· Contributed to designing and implementing algorithms for accelerometer signal processing

SKILLS

Machine Learning	Deep Learning (CNN), SVM, Naive Bayesian, Ranking on Graph
Programming Languages	Python, C/C++, Java, Matlab
Operating Systems	Windows, Ubuntu Linux, Mac OS X
Tools	Git, Vim, Makefile

HONORS AND AWARDS

Hong Kong PhD Fellowship	2010 - 2013
Distinguished Graduate Award, Tsinghua University (top 3%)	2009
Outstanding Thesis Award, Tsinghua University (top 3%)	2009
First Class Scholarship for Academic Excellence, Tsinghua University (top 3%)	2006, 2008
National Scholarship of Overall Excellence (top 1%)	2007
Silver Medal in Chinese Physics Olympiad (CPhO)	2004

PUBLICATIONS

W. Ouyang, X. Zeng, X. Wang, **S. Qiu**, P. Luo, Y. Tian, H. Li, S. Yang, Z. Wang, H. Li, C. Loy, X. Tang, DeepID-Net: Deformable Deep Convolutional Neural Networks for Object Detection, to appear in *IEEE Transactions on Pattern Analysis and Machine Intelligence* (**TPAMI**)

Z. Liu, P. Luo, **S. Qiu**, X. Wang, X. Tang, DeepFashion: Powering Robust Clothes Recognition and Retrieval with Rich Annotations, *in Proceedings of IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**), 2016

W. Ouyang, X. Wang, X. Zeng, **S. Qiu**, P. Luo, Y. Tian, H. Li, S. Yang, Z. Wang, C. Loy, X. Tang, DeepID-Net: Deformable Deep Convolutional Neural Networks for Object Detection, *in Proceedings of IEEE Conference on Computer Vision and Pattern Recognition* (**CVPR**), 2015

S. Qiu, X. Wang, and X. Tang, Visual Semantic Complex Network for Web Images, *in Proceedings of IEEE International Conference on Computer Vision* (**ICCV**), 2013

S. Qiu, X. Wang, and X. Tang, Anchor Concept Graph Distance for Web Image Re-ranking, *in Proceedings of ACM International Conference on Multimedia* (**MM**), 2013

X. Wang, **S. Qiu**, K. Liu, and X. Tang, Web Image Re-ranking Using Query-Specific Semantic Signatures, *IEEE Transactions on Pattern Analysis and Machine Intelligence* (**TPAMI**)

M. Annavaram, N. Medvidovic, U. Mitra, S. Narayanan, G. Sukhatme, Z.i Meng, **S. Qiu**, R. Kumar, G. Thatte, D. Spruijt-Metz, Multimodal sensing for pediatric obesity applications, *UrbanSense08*, 2008