SHICHEN LIU

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EDUCATION

Tsinghua University, Beijing China Sep 2014 - Present
Bachelor of Engineering (Software Engineering) *School of Software*

· **GPA**: Overall: 88.5/100 Ranking: 11/69 Major: 91.4/100 Ranking: 7/69
· **Core Courses**: Probability and Statistics (96)/ Calculus (92)/ Complex Variables Functions (95)/ Data Structure and Algorithm (93)/ Computer Network and Computer Architecture (96)/ Principle of Compiler and Assembly Language (90)/ Program Design and Practice (98)/ Student Research Training (SRT) (98)

RESEARCH EXPERIENCE

Machine Learning Group, National Engineering Laboratory for Big Data Systems, Tsinghua University Jan 2016 - Present
Advisor: Mingsheng Long, Assistant Professor

Paper: Collective Deep Quantization for Efficient Cross-Modal Retrieval May 2016 - Sep 2016
Learning deep representations and compact quantizers for cross-modal data using hybrid networks and new losses.
· Reimplemented state-of-the-art cross-modal retrieval algorithms based on deep learning and compact hashing.
· Conducted comparative study on retrieval performance (mAP, precision and recall) and visualization analysis.

Paper: Deep Visual-Semantic Quantization for Efficient Image Retrieval Sep 2016 - Nov 2016
Learning deep visual-semantic embeddings and quantizers to enable efficient maximum inner-product search.
· Implemented the new deep visual-semantic quantization network in TensorFlow and trained it end-to-end.
· Tweaked the network architectures and model parameters, making our algorithm outperform previous work.

Paper: Learning Transferable Models with Residual Adaptation Networks Nov 2016 - Present
Learning transferable features (by MMD) and adaptive classifiers (by residual learning) for domain adaptation.
· Extension to NIPS' 2016 paper on Residual Transfer Network for JMLR submission. Implemented all new modules, including compact bilinear pooling for dimension reduction (which addresses the limitation of MMD for high-dimensional two-sample test), cross-domain cross-entropy minimization over residual module for classifier adaptation.
· Devised a simple but reasonable max-pooling strategy for dimension reduction, which performs surprisingly well.
· Conducted empirical evaluation against state-of-the-art deep domain adaptation methods on standard datasets.

Paper: Importance-Weighted Adversarial Network for Unsupervised Domain Adaptation Jan 2017 - Present
Learning transferable representation and domain-unbiased classifier using importance weighted deep network.
· Proposed an adversarial learning strategy to discriminatively learn the importance weights for source data.
· End-to-end architecture for adversarial learning of importance weights and importance-weighted deep learning.
· Implemented the proposed algorithm in TensorFlow, achieving promising improvements on multiple datasets.

PUBLICATION

Yue Cao, Mingsheng Long, Jianmin Wang, Shichen Liu. **Collective Deep Quantization for Efficient Cross-Modal Retrieval**. *AAAI Conference on Artificial Intelligence (**AAAI**)*, 2017.

Yue Cao, Mingsheng Long, Jianmin Wang, Shichen Liu. **Deep Visual-Semantic Quantization for Efficient Image Retrieval**. *IEEE Conference on Computer Vision and Pattern Recognition (**CVPR**)*, 2017

WORK EXPERIENCE

Sogou Corporation | Browser Developer Intern | Beijing Jun 2015 - Sep 2015
· Led a team of 4 members to develop Chinese optical character recognition (OCR) algorithms for use in products.
· Independently created a Python crawler program that automatically crawls images by keywords from the Web.
· Implemented tools for management of various devices, e.g. mobile phone.

AWARDS

· Qualcomm Scholarship (33/3000) Dec 2016
· Tsinghua Science and Technology Innovation Scholarship (1/69) Dec 2016
· Tsinghua Science and Technology Innovation Scholarship (1/69) Dec 2015
· First Prize of National Olympiad in Information Competition, Beijing City (78/1278) Dec 2012

ACTIVITIES

Student Association of Sci. & Tech., School of Software, Tsinghua University Sep 2015 - Present
Vice Chair
· Hosted the 20th *Intelligent Body's Cup*, co-organized main events, independently set up website for benchmarking.
· Hosted the *ADI Cup* on information knowledge contest for new students, co-organized with the Student Association of Sci. & Tech., Department of Electronic Engineering, Tsinghua University.

SKILLS/ INTERESTS

· Language: Native in Mandarin, Fluent in English, Conversational Proficiency in Japanese
· Programming: Solid Expertise on Python, Proficiency in C/C++, Matlab, Bash, Haskell/ Lisp, JavaScript
· Deep Learning Platforms: Caffe with C++/ CUDA, TensorFlow with Python, PyTorch with Python
· TOEFL: 96 (R: 25, L: 27, S: 22, W: 22)