Xide Xia

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EDUCATION

Boston University — Sept 2016 - Present
Ph.D. candidate in Computer Science — Boston, MA
Advisor: Professor Brian Kulis

Harvard University, Institute for Applied Computational Science — Sept 2014 – May 2016
M.E. in Computational Science and Engineering — Cambridge, MA

Brown University, School of Engineering — Sept 2012 – Dec 2013
M.S. in Electrical Science — Providence, RI

Beijing Institute of Technology, College of Information and Electronics — Sept 2008 – May 2012
B.S. in Electrical and Information Engineering — Beijing, China

RESEARCH INTERESTS

Machine Learning, Deep Learning, Image Segmentation, Representation Learning, Computer Vision, Data Mining

RESEARCH EXPERIENCE

Boston University, Boston, MA

Convolutional Neural Networks for Unsupervised Image Segmentation — May 2017 – Present
Research advised by Professor Brian Kulis.
• Design an end-to-end Convolutional Neural Network Architecture for fully-unsupervised image segmentation.

Efficient Deep Generative Models for Unsupervised Representation Learning — Oct 2016 – May 2017
Research advised by Professor Brian Kulis.
• Learn the underlying lower-dimensional representation for input image data on the hidden layer.
• Train a deep generative model for the purpose of unsupervised clustering task in the hidden space.

Age and Gender Prediction on Twitter Users — Feb 2017 – July 2017
Research Assistant advised by Professor Margrit Betke, Image and Video Computing (IVC) Lab.
• Efficient Deep Generative Models for Unsupervised Learning.
• Age/ gender/ ethnicity prediction on the data of Twitter users profile images.

Harvard Medical School, Boston, MA

Computational prediction of protein-DNA interactions based on sequences information. — Aug 2013 – May 2016
Graduate Research Fellow at Department of Systems Biology
• Develop a new computational method for predicting protein-DNA interactions.
• Implement large-scale scientific computing in parallel and distributed environments.

Harvard University, Cambridge, MA

Intervention and Outcome Predictions in the ICU — Dec 2015 – May 2016
Research advised by Professor Finale Doshi-Velez.
• Design a recurrent neural network (RNN) model to simulate multidimensional physiological time series of patients during vasopressor administration.

Batch Mode Active Learning and Its Application to Astronomy — Feb 2015 – Nov 2015
M.E. Thesis advised by Professor Finale Doshi-Velez and Dr. Pavlos Protopapas.
• Developed a batch-mode cost-sensitive active learning approach that not only exploited uncertainty and representativeness of the whole unlabeled dataset but also took annotation cost into consideration.
• Designed a selection criterion that combined uncertainty and representativeness by using a synthesized heuristic argument.
• Applied the approach to optimize astronomical observations for object classification.

WORK EXPERIENCE

Boston University, Boston, MA — Sept 2016 – Present
Research Assistant

Harvard Medical School, Boston, MA — Aug 2013 – May 2016
Research Fellow at Department of Systems Biology

Agilent Technologies Co., Ltd, Beijing, China — Sept 2011- Jan 2012
Undergraduate intern at mobile broadband division

PUBLICATION

[P.2] Xide Xia, Finale Doshi-Velez, Pavlos Protopapas. "Cost-Sensitive Batch Mode Active learning: Designing Astronomical Observation by Optimizing Telescope Time and Telescope Choice." In In Proceedings of SIAM Data Mining Conference (SDM). 2016.

[P.1] AlQuraishi, M., Tang, S., Xia, X. "An affinity-structure database of helix-turn-helix: DNA complexes with a universal coordinate system." BMC Bioinformatics, 16(1), 390. PMID:26586237. (Database: http://staging.proteindna.hms.harvard.edu/).

TEACHING EXPERIENCE

Boston University — Boston, MA
• CS131 Combinatoric Structures, 2016 Fall

Harvard University — Cambridge, MA
• AM207 Stochastic Methods for Data Analysis, Inference, and Optimization, 2016 Spring

HONORS & AWARDS

2017
• Dean's Fellow Scholarship (Boston University, Boston, MA)
• CRA-Women Graduate Cohort Workshop Student Award

2016
• Harvard IACS Student Scholarship (Harvard University, Cambridge, MA)
• SDM Student Award

Before 2016
• Research Fellowship (2013-2016, Harvard Medical School, Cambridge, MA)
• Ren-Min Scholarship (2008-2012, Beijing Institute of Technology, Beijing, China)

TECHNICAL STRENGTHS

Proficient in programming languages: Python, Matlab, C/C++
Familiar with deep learning packages: Tensorflow, Keras, Caffe