

ZHENG XU

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EDUCATION

University of Texas at Arlington

Sep 2014 - Now

Pursuing Ph.D in Computer Science & Engineering

Research Field: Deep Learning, Machine Learning, Large-scale Optimization Theory

Overall GPA: 4.00/4.00

Huazhong University of Science and Technology

Sep 2010 - Jun 2014

B.S. in Information and Computing Science, Department of Mathematics and Statistics

Overall GPA: 86.83/100.00, **Rank:** 1/24

EXPERIENCE

Microsoft Research

May 2017 - Aug 2017

Research Intern

Redmond, WA

- Small object detection with Multi-task Deep Convolutional Neural Network.

Google Inc.

May 2016 - Aug 2016

Software Engineering and Testing Intern

Mountain View, CA

- Deep Learning-based Google-scale iOS Accessibility Testing Framework.

University of Texas at Arlington

Sep 2014 - Now

Teaching Assistant

Arlington, TX

- **2014 Fall**, Discrete Structure
- **2015 Spring - 2017 Spring**, Linear Algebra for Computer Science

PUBLICATIONS

- **Zheng Xu**, Sheng Wang, Feiyun Zhu, Junzhou Huang, "Seq2seq Fingerprint: An Unsupervised Deep Molecular Embedding for Drug Discovery", In the 8th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics, ACM BCB'17, Boston, MA, USA, August 2017.
- **Zheng Xu**, Junzhou Huang, "A General Efficient Hyperparameter-free Algorithm for Convolutional Sparse Learning", In Proc. of The Thirty-first AAAI Conference on Artificial Intelligence, AAAI'17, San Francisco, California, USA, February 2017.
- **Zheng Xu**, Yeqing Li and Junzhou Huang, "Accelerated Sparse Optimization for Missing Data Completion", In Proc. of the 23rd International Conference on Pattern Recognition, ICPR16, Cancun, Mexico, December 2016.
- **Zheng Xu**, Junzhou Huang, "Detecting 10,000 Cells in One Second", In Proc. of the 19th Annual International Conference on Medical Image Computing and Computer Assisted Intervention, MICCAI'16, Athens, Greece, October 2016.
- Sheng Wang, Jiawen Yao, **Zheng Xu**, Junzhou Huang, "Subtype Cell Detection with an Accelerated Deep Convolution Neural Network", In Proc. of the 19th Annual International Conference on Medical Image Computing and Computer Assisted Intervention, MICCAI'16, Athens, Greece, October 2016.
- **Zheng Xu**, Junzhou Huang, "Efficient Lung Cancer Cell Detection with Deep Convolution Neural Network", 1st International Workshop on Patch-based Techniques in Medical Imaging, PMI'15, Munich, Germany, October 2015.

- **Zheng Xu**, Yeqing Li, Leon Axel, Junzhou Huang, "Efficient Preconditioning in Joint Total Variation Regularized Parallel MRI Reconstruction", In Proc. of the 18th Annual International Conference on Medical Image Computing and Computer Assisted Intervention, MICCAI15, Munich, Germany, October 2015.
- Jiawen Yao, **Zheng Xu**, Xiaolei Huang, Junzhou Huang, "Accelerated Dynamic MRI Reconstruction with Total Variation and Nuclear Norm Regularization", In Proc. of the 18th Annual International Conference on Medical Image Computing and Computer Assisted Intervention, MICCAI'15, Munich, Germany, October 2015.

PROJECTS

R-CNN Detection for Small Objects

Microsoft Research.

May-Aug, 2017

Redmond, WA

- This project focus on research that tackles the current bottleneck in Region-CNN-based detection for small objects.

Deep Learning-based Google-scale iOS Accessibility Testing Framework

Google Inc.

May-Aug, 2016

Mountain View, CA

- This projects provides a general, scalable iOS accessibility testing framework that utilizes the deep learning techniques for almost all Google iOS apps.

Efficient and Accurate Deep Cell Detection in Large-scale Histopathological Image (Paper Demo)

University of Texas at Arlington

Jun-Aug, 2015

Arlington, TX

- An entire solution was built up for cell detection on whole-slide images based on deep neural network. Our method utilizes the most recent "atrous convolution" technique, while we called it sparse kernel convolution in the old age. It achieves good accuracy on cell detection, see <https://celldetection.zhengxu.work/>.
- A follow-up enhancement is we design and build a distributed system to detect cell in image patches in parallel, for large-scale histopathological images, which usually holds billions of pixels.

PERSONAL ACTIVITIES AND MEMBERSHIPS

March, 2017	Reviewer, MICCAI 2017
June, 2016	Reviewer, NIPS 2016
2013 - Now	IEEE Student Member

TECHNICAL STRENGTHS

Proficient in Deep Learning, Convex Optimization Theory, Bio-imaging, Familiar with Deep Reinforcement Learning and Computer Vision.

Programming Languages: Python, C++, and many others that are too long to be listed here.

Big data skills: Spark, hadoop, MPI.

CI skills: bazel, CMake, Travis CI.

Editors: Sublime Text, Vim.