

ZHENG XU

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EDUCATION

University of Texas at Arlington

Sep 2014 - Dec 2018 (expected)

Pursuing Ph.D in Computer Science & Engineering

Supervisor: Junzhou Huang

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

Google Research

Software Engineer

Sep 2018 - Present

Mountain View, CA

- Large-scale Video Understanding.

Google Research

Software Engineering Intern

Sep 2017 - Jan 2018

Mountain View, CA

- Mentor: Balakrishnan Varadarajan, Rodrigo Carceroni, Hanhan Li
- Massive Model Exploration on Video Understanding tasks.
- Highly-scalable training on Youtube-8M in incredibly short time.

Microsoft Research

Research Intern

May 2017 - Aug 2017

Redmond, WA

- Mentor: Rong Xiao, Yuxiao Hu, Lei Zhang.
- Small object detection with Multi-task Deep Convolutional Neural Network.

Google Inc.

Software Engineering and Testing Intern

May 2016 - Aug 2016

Mountain View, CA

- Mentor: Sid Janga.
- Deep Learning-based Google-scale iOS Accessibility Testing Framework.

University of Texas at Arlington

Teaching Assistant

Sep 2014 - May 2018

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.

Distributed DCNN Cell Segmentation in Large-scale Histopathological Image Jun-Aug, 2015

University of Texas at Arlington

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.
- 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

May, 2017 - Now

Reviewer, Journal of Visual Communication and Image Representation

March, 2017

Reviewer, MICCAI 2017

June, 2016

Reviewer, NIPS 2016

2017 - Now

ACM Student Member

2013 - Now

IEEE Student Member

AWARDS

2013 Tencent Fellowship (< 1%)