

XIAOJIAN XU

URL: <https://xuxiaojian.github.io/>

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EDUCATION

- Washington University in St. Louis**, St. Louis, MO 9/2017–Present
- Ph.D student in Computer Science, advised by Dr. Ulugbek Kamilov
- GPA: 3.85 / 4.00
- University of Electronic Science and Technology of China**, Chengdu 9/2014–6/2017
- M.Eng in Communication & Information Engineering
- GPA: 3.65 / 4.00
- University of Electronic Science and Technology of China**, Chengdu 9/2010–6/2014
- B.Eng in Communication Engineering
- GPA: 3.89 / 4.00

RESEARCH EXPERIENCE

- Learning-based fast reconstruction for dynamic MRI** 7/2018 – Present
Researcher St. Louis
- Successfully extracted the clinical data and transferred it to the learnable image data.
- Successfully built up the task based neural network for doing denosing for MRI data.
- Designed and tested various convolutional neural network structures and machine learning methods for the task.
- Compressed proximal algorithm for nonconvex stochastic optimization** 9/2018 – 1/2019
Researcher St. Louis
- Developed two compressed proximal based algorithms for stochastic optimization problems.
- Implemented models and experiments and were the first to prove the convergence of the algorithm.
- Convolutional dictionary learning for MRI reconstruction** 3/2018 – 6/2018
Researcher St. Louis
- Implemented a novel convolutional dictionary learning method for MRI reconstruction problems.
- Compared the performance with traditional patch-wise dictionary learning method and TV based model.
- Some earlier research experience** 3/2014 – 6/2017
Developer & Researcher Chengdu
- Development of Intelligent Home System.
- Design and simulation of constrained routing algorithms.
- Routing and resource scheduling algorithms for large-scale network SDN.

WORK EXPERIENCE

- Mitsubishi Electric Research Laboratories (MERL)** 5/2019–Present
Intern Boston
- Researcher in computational imaging, inverse problem and optimization.
- Head TA for ESE415 Optimization** 1/2019–Present
Assistant Instructor St. Louis
- Assistant instructor, teach tutorial sessions, hold office hours, answer questions on piazza and via emails, develop tests and solutions, help grading exams and homeworks.
- Supervisor for Research Experience for Undergraduates (REU) Program** 7/2018–8/2018
Research Supervisor St. Louis
- Supervised undergraduates for research during summer.

LIST OF PUBLICATIONS

- Xu, X., & Kamilov, U. S. (2019, April). signProx: One-bit proximal algorithm for nonconvex stochastic optimization. In ICASSP 2019-2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 7800-7804).
- Liu, J., Sun, Y., Xu, X., & Kamilov, U. S. (2019, April). Image restoration using total variation regularized deep image prior. In ICASSP 2019-2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) (pp. 7715-7719).

SKILLS

- **Languages:** Matlab, Python, C, Java
- **Skills:** Tensorflow, Deep learning
- **Certifications:** National 3-tier computer certificate (China), National 4-tier computer certificate (Network Engineer, China)

AWARDS

Scholarship

- Graduate Student First-Rank Academic Scholarship 2016
- Graduate Student Second-Rank Academic Scholarship 2015
- Graduate Student First-Rank Academic Scholarship 2014
- National Inspirational Scholarship 2013
- People's First-Rank Scholarship 2012
- National Inspirational Scholarship 2011

Others

- Third-prize of 'Internet+' Entrepreneurship Competition in Sichuan Province 2016
- Great Award of Intelligent City Technology Competition 2016
- Award of Hackathon Programming Competition 2015
- Outstanding Graduate Student 2015
- Second Prize of Electronic Design Competition in UESTC 2011