

# Zhongfa Wang

Master of Science  
Information and Communication Engineering  
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## Education

- M.Sc.** Information and Communication Engineering **09/2016 – 06/2019**  
School of Information and Electronics, Beijing Institute of Technology, Beijing, China.  
(admitted as postgraduate with exam-free recommendation)
- B.Sc.** Electronic and Information Engineering **09/2012 – 06/2016**  
College of Information and Communication Engineering,  
Harbin Engineering University, Harbin, China.

## English Proficiency

TOEFL: 96.

## Research Experience

- 03/2019 – present** **Developing performance analyses of distributed network.**  
Developed the performance analyses of both single-task and multi-task networks.
- 07/2017 – 03/2019** **Developed a multi-task distributed optimization algorithm with non-convex optimization.**  
Focusing on a more complex topic, the multi-task estimation problem, a multi-task distributed collaborative proximal gradient method TLS algorithm was proposed. A paper "Multitask Total least-squares Adaptation over Networks" was published by 37<sup>th</sup> CCC. Another paper "Diffusion Total least-squares with proximal adaptation over multi-task networks" was submitted to *Science China: Information Science*.
- 02/2018 – 07/2018** **Co-developed a massive distributed network functional and demonstrating platform.**  
Developed a massive distributed network functional and demonstrating platform based on the theory of multiple active agents and complex systems.
- 09/2016 – 07/2017** **Developed a single-task distributed optimization algorithm with non-convex optimization**  
Focusing on the distributed EIV (Errors in variables) estimation problem, a distributed collaborative proximal gradient method TLS (Total least-

squares) algorithm was proposed. Successfully solve the non-convex collaborative estimation problem in EIV scenario by employing proximal gradient method into distributed adaptive network. An academic paper “Collaborative estimation for distributed EIV problems over multi-agent networks” was submitted to *Digital Signal Processing*.

## Technical Competencies

- Solid basic knowledge on distributed adaptive network and its performance analysis
- Solid basic knowledge on adaptation and optimization theory (such as gradient descent method, total least-square algorithms, proximal gradient algorithms and so on)
- Solid basic knowledge about signal processing
- Solid development skill in MATLAB, familiar with C/C++, Python, VHDL
- Familiar with embedded system (FPGA) and analog circuit designing (Altium Designer, Cadence)
- Skillful with academic paper writing by using L<sup>A</sup>T<sub>E</sub>X or Microsoft Office

## Publications

Wang Z F, Jia L J, Yang Z J. Multitask Total least-squares Adaptation over Networks[C]. 37th Chinese Control Conference (CCC). Piscataway: IEEE, 2018.

## Awards and Honors

- The first prize of National Undergraduate Electronics Design Contest in Heilongjiang province (2015)
- The third prize of TI-cup in Heilongjiang province (2014)
- The first prize scholarship (2012)
- The second prize scholarship (2013, 2014, 2016, 2017, 2018, 2019)
- The third prize scholarship (2015)

## Work style

- Persevering, well-organized and passionate, fully concentrated and efficient
- Willing to perform basic tasks and move on to solve complex problems
- Able to learn new knowledge and adapt to new environments quickly
- Strongly independent work style and excellent teamwork skills