Zhongfa Wang

Ph.D.Candidate
Information and Communications Engineering
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Education

Ph.D.	Information and Communications Engineering School of Information and Communications, Tokyo Institute of Technology, Tokyo, Japan	**09/2021 – now**
M.Sc.	Information and Communication Engineering School of Information and Electronics, Beijing Institute of Technology, Beijing, China. (admitted as postgraduate with exam-free recommendation)	**09/2016 – 06/2019**
B.Sc.	Electronic and Information Engineering College of Information and Communication Engineering, Harbin Engineering University, Harbin, China.	**09/2012 – 06/2016**

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 37th 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 it's 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 $\text{L\!A\!T\!E\!X}$ 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