Xu Du

CONTACT INFO

Address: No. 1 Du Xue Road, Guangzhou, Guangdong, China

Website: https://fubianhanshu9.github.io/index.html

 $E ext{-}Mail:$ duxu@hnas.ac.cn

EXPERIENCE

- Research Assistant (soon to be a postdoctoral researcher), The Hong Kong University of Science and Technology (Guangzhou), 2025.4-now.
- Assistant Researcher, Institute of Mathematics HNAS, Henan Academy of Science, 2023.7-2025.3.
- Postdoctoral Researcher, National Key Laboratory of Science and Technology on Communications, University of Electronic Science and Technology of China, 2023.1-2023.6.

EDUCATION

University of Chinese Academy of Sciences

Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences

Sep.2017-Sep.2022

Ph.D, Communication and Information Systems Engineering (Supervised by Boris Houska, Shanghai Tech University)

Zhengzhou University

Sep.2013-June.2017

B.E, Computer Science, School of Information Engineering

RESEARCH INTERESTS

- Distributed Optimization: relates to C1,C8,C9.
- Optimal Experiment Design:relates to C2,C3,C5,C7.

PUBLICATION

†: equal contribution

C9 X.Du, X.Zhou, S.Zhu, Apostolos.I.Rikos

Convergence Theory of Flexible ALADIN for Distributed Optimization. European Control Conference (ECC), Thessaloniki, Greece, 2025. (Accepted)

C8 X.Du, J.Wang.

Distributed Consensus Optimization with Consensus ALADIN. American Control Conference (ACC), Denver, Colorado, 2025. (Accepted)

C7 X.Zhou, X.Du, Y.Mao.

Cramér-Rao Bound Based Waveform Optimization for MIMO Radar: An Efficient Linear-Proximal Method Globecom Workshop 2024

J2 W Huang, Z Li, X He, J Xiang, X.Du, X Liang.

DRL-based dynamic destroy approaches for agile-satellite mission planning. Remote Sensing

C6 X.Du[†], S.Zhu[†], Y.Wang[†], B.Han[†], X.He[†].

Optimal Resilience Design of AC Microgrid using AO-SBQP Method.

The 22nd IFAC World Congress, Yokohama, Japan, 2023

C5 X.Du, A.Engelmann, T.Faulwasser, B.Houska.

Approximations for Optimal Experimental Design in Power System Parameter Estimation.

The 61th IEEE Conference on Decision and Control (CDC), Cancún, Mexico, 2022 (invited session)

C4 S.Zhu † , X.Du † .

Alternating Direction Based Sequential Boolean Quadratic Programming Method for Transmit Antenna Selection.

The 61th IEEE Conference on Decision and Control (CDC), Cancún, Mexico, 2022

J1 B.Han, X.Liang, Z.Xie, X.Du, X.He.

Communication Enhancement Model of Intelligent Reflecting Surface Based on Cooperative Relationship. (in Chinese)

Laser & Optoelectronics Progress, 2021

C3 X.Du, A.Engelmann, T.Faulwasser, B.Houska.

Online power system parameter estimation and optimal operation.

In Proceedings of the 2021 American Control Conference (ACC), New Orleans, USA May, 2021

C2 X.Du, A.Engelmann, Y.Jiang, T.Faulwasser, B.Houska.

Optimal Experiment Design for AC Power Systems Admittance Estimation. In Proceedings of the 21rst IFAC World Congress, Berlin, Germany, July, 2020

C1 X.Du, A.Engelmann, Y.Jiang, T.Faulwasser, B.Houska.

Distributed State Estimation for AC Power Systems using Gauss-Newton ALADIN. In Proceedings of the 58th IEEE Conference on Decision and Control (CDC), Nice, France, December, 2019.

PROFESSIONAL SERVICE

Conference Session Chair/Co-chair

• Co-chair of the invited session for the 61st IEEE Conference on Decision and Control (CDC 2022) "Trends in Optimization for Power Systems", Cancún, Mexico (together with Alexander Engelmann, Yuning Jiang, Timm Faulwasser, Boris Houska)

Technical Meetings—Leadership Roles

• Co-organizer, International Workshop on Advanced Methods for Control and Estimation of Dynamic Systems (AMCEDS 2018), ShanghaiTech University, Shanghai, China, July 23, 2018

Technical Reviewer

- Selected journals: Optimal Control Applications & Methods
- Selected international conferences: IEEE CDC, IFAC World Congress, ICCA

PRESENTATION

- Robust Convergence Analysis of Distributed Optimization Algorithms
 Singapore University of Technology and Design, Singapore, March 4th, 2024 (Online)
- Sub-linear Convergence of ADMM ShanghaiTech, China, December 8th, 2022 (Online)
- Distributed Optimization with ADMM and ALADIN Innovation Academy for Microsatellite, Chinese Academy of Sciences, China, November, 2021
- Online power system parameter estimation and optimal operation 2021 American Control Conference (ACC), New Orleans, USA May, 2021 (online)
- Optimal Experiment Design for AC Power Systems Admittance Estimation 21rst IFAC World Congress, Berlin, Germany, July, 2020 (online)
- Distributed State Estimation for AC Power Systems using Gauss-Newton ALADIN 58th IEEE Conference on Decision and Control (CDC), Nice, France, December, 2019.

HONORS AND AWARDS

- Merit Student, ShanghaiTech University, 2019-2020
- SIST Outstanding Teaching Assistant Award, Shanghai Tech University, 2019-2020
- Outstanding Student Award, Zhengzhou University, 2014-2017
- YiSheng Scholarship, Zhengzhou University, 2015

URL LINKS

- Google Scholar: https://scholar.google.com/citations?user=OnIuCROAAAAJ
- ResearchGate: https://www.researchgate.net/profile/Xu-Du-9
- ORCID: https://orcid.org/my-orcid?orcid=0009-0007-6789-1222

ADVISING

Main supervised Student:

• Main supervisor of **Shuting Wu**, School of Mathematics and Statistics, North China University of Water Resources and Electric Power (NCWU) and Henan Acamedy of Science, 2024-2027.

Co-supervised Students:

- Co-supervisor of **Shijie Zhu**, Innovation Academy for Microsatellite, Chinese Academy of Sciences and ShanghaiTech University, 2021-2023. (Master 2023, now with China Telecom)
- Co-supervisor of **Yifei Wang**, Innovation Academy for Microsatellite, Chinese Academy of Sciences and ShanghaiTech University, 2021-2023. (now Ph.D in Shanghai Jiaotong University)
- Co-supervisor of **Boyu Han**, Innovation Academy for Microsatellite, Chinese Academy of Sciences, 2021. (Master 2021, now Ph.D in Shanghai Jiaotong University)

TEACHING

ShanghaiTech University:

- Teaching Assistant, Introduction to Communication Systems (EE140), ShanghaiTech University, Fall 2021 (Instructor: Professor Lixiang Lian).
- Teaching Assistant, Signals and Systems Lab(EE150L), ShanghaiTech University, Spring 2021 (Instructor: Linyan Lu and Ping Wang).
- Teaching Assistant, Introduction to Control(EE160), ShanghaiTech University, Fall 2020
 - https://faculty.sist.shanghaitech.edu.cn/faculty/boris/courses.html (Instructor: Professor Boris Houska and Professor Yang Wang).
- Teaching Assistant, Introduction to Control Project(EE160P), ShanghaiTech University, Fall 2020
 - (Instructor: Professor Boris Houska and Professor Yang Wang).
- Teaching Assistant, Signals and Systems(EE150), ShanghaiTech University, Spring 2020
 - (Instructor: Professor Yong Zhou, Professor Ziping Zhao, Professor Xin Lou and Professor Lin Xu).
- Teaching Assistant, Numerical Analysis(SI211), ShanghaiTech University, Fall 2019 https://faculty.sist.shanghaitech.edu.cn/faculty/boris/courses.html (Instructor: Professor Boris Houska).
- Teaching Assistant, Design Thinking, ShanghaiTech University, Fall 2018 and Spring 2019
 - (Instructor: Professor Ding Lu, Professor Xivi Yang and Professor Xue Chen)
- Teaching Assistant, Signals and Systems(EE150), ShanghaiTech University, Spring 2018 (Instructor: Professor Yanlin Geng)

REFEREES

• Prof. Apostolos Rikos

Postdoc Supervisor

Assistant Professor

Artifcial Intelligence Thrust, Information Hub

The Hong Kong University of Science and Technology (Guangzhou), Guangzhou, China

E-Mail: apostolosr@hkust-gz.edu.cn

• Prof. Yijie Mao

Collaborator

Assistant Professor

NICE Center, School of Information Science and Technology, ShanghaiTech University, Shanghai, China

E-Mail: maoyj@shanghaitech.edu.cn

• Prof. Kwan-Wu Chin

Collaborator

Professor

School of Electrical, Computer and Telecommunications Engineering (SECTE), University of Wollongong, Wollongong, Australia

E-Mail: kwanwu@uow.edu.au

• Sania Asif Collaborator

Assistant Researcher

Institute of Mathematics, Henan Acamedy of Science, Zhengzhou, China

E-Mail: 11835037@zju.edu.cn

• Prof. Boris Houska

Ph.D Supervisor

Associate Professor

STAR Center, School of Information Science and Technology, ShanghaiTech University, Shanghai, China

E-Mail: borish@shanghaitech.edu.cn

• Prof. Sören Schwertfeger

Director of STAR Center

Associate Professor

STAR Center, School of Information Science and Technology, ShanghaiTech University, Shanghai, China. Director of Mobile Autonomous Robotic Systems Lab (MARS Lab)

E-Mail: soerensch@shanghaitech.edu.cn

Last updated on April 24, 2025