

# Xu Du

## CONTACT INFO

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*Address:* 2006 Xiyuan Avenue, Chengdu, Sichuan, P.R.China  
*Website:* <https://fubianhanshu9.github.io/index.html>  
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## EDUCATION

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University of Chinese Academy of Sciences  
Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences  
ShanghaiTech University Sep.2017-Sep.2022  
*Ph.D. in Electrical Engineering (Supervised by Professor Boris Houska)*

Zhengzhou University Sep.2013-June.2017  
*B.E, Computer Science, School of Information Engineering*

## RESEARCH INTERESTS

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- Optimal Experiment Design
- Distributed Optimization
- Algorithmic Game Theory
- Robust Optimization
- Power Systems
- Wireless Communication

## PUBLICATION

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†: equal contribution

- **Xu Du**, Jingzhe Wang.  
Consensus ALADIN: A Framework for Distributed Optimization and Its Application in Federated Learning  
*Submit to IEEE Transactions on Pattern Analysis and Machine Intelligence*
- **Xu Du**<sup>†</sup>, Shijie Zhu<sup>†</sup>, Yifei Wang<sup>†</sup>, Boyu Han<sup>†</sup>, Xiaohe He<sup>†</sup>.  
Optimal Resilience Design of AC Microgrid using AO-SBQP Method  
*The 22nd IFAC World Congress, Yokohama, Japan, 2023*
- **Xu Du**, Alexander Engelmann, Timm Faulwasser, Boris Houska.  
Approximations for Optimal Experimental Design in Power System Parameter Estimation (invited session)  
*The 61th IEEE Conference on Decision and Control (CDC), Cancún, Mexico, 2022*

- Shijie Zhu<sup>†</sup>, **Xu Du**<sup>†</sup>.  
Alternating Direction Based Sequential Boolean Quadratic Programming Method for Transmit Antenna Selection  
*The 61th IEEE Conference on Decision and Control (CDC), Cancún, Mexico, 2022*
- Boyu Han, Xuwen Liang, Zhuochen Xie, **Xu Du**, Xiaohe He.  
Communication Enhancement Model of Intelligent Reflecting Surface Based on Cooperative Relationship  
*Laser & Optoelectronics Progress, 2021*
- **Xu Du**, Alexander Engelmann, Timm Faulwasser, Boris Houska.  
Online power system parameter estimation and optimal operation  
*In Proceedings of the 2021 American Control Conference (ACC), New Orleans, USA May, 2021*
- **Xu Du**, Alexander Engelmann, Yuning Jiang, Timm Faulwasser, Boris Houska.  
Optimal Experiment Design for AC Power Systems Admittance Estimation  
*In Proceedings of the 21st IFAC World Congress, Berlin, Germany, July, 2020*
- **Xu Du**, Alexander Engelmann, Yuning Jiang, Timm Faulwasser, Boris 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

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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, 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: CDC, IFAC World Congress, ICCA

## PRESENTATION

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- 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  
*21st 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

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

## URL LINKS

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- Google Scholar: <https://scholar.google.com/citations?user=OnIuCR0AAAAJ>
- ResearchGate: <https://www.researchgate.net/profile/Xu-Du-9>

## ADVISING

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### Co-supervised Students

- Co-supervisor of Boyu Han, Innovation Academy for Microsatellite, Chinese Academy of Sciences, 2021. (Master 2021, now with China Unionpay)
- Co-supervisor of Shijie Zhu, Innovation Academy for Microsatellite, Chinese Academy of Sciences, 2021-2023. (Master 2023)
- Co-supervisor of Yifei Wang, Innovation Academy for Microsatellite, Chinese Academy of Sciences, 2021-2023. (Master 2023)

## TEACHING

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### ShanghaiTech

- 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  
<http://faculty.sist.shanghaitech.edu.cn/faculty/boris/EE160.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  
<http://faculty.sist.shanghaitech.edu.cn/faculty/boris/SI211.html>  
(Instructor: Professor Boris Houska).
- Teaching Assistant, Design Thinking, ShanghaiTech University, Fall 2018 and Spring 2019.  
(Instructor: Professor Ding Lu, Professor Xiyi Yang and Professor Xue Chen)
- Teaching Assistant, Signals and Systems(EE150), ShanghaiTech University, Spring 2018 (Instructor: Professor Yanlin Geng)