

Youbang SUN

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Northeastern University

360 Huntington Avenue, Boston, MA 02115

EDUCATION

Northeastern University (Transferred)

Sept. 2021 - Now

Ph.D. candidate in Department of Mechanical and Industrial Engineering

Overall GPA: 4.0/4.0

Advisor: Prof. Shahin Shahrampour

Texas A&M University

Sept. 2019 - Aug. 2021

Ph.D. candidate in Department of Industrial & Systems Engineering

Overall GPA: 4.0/4.0

Advisor: Prof. Shahin Shahrampour

University of Science and Technology of China - Honors College

August 2015 - July 2019

The Talent Program in Computer and Information Science and Technology

Major in Electronic Information Engineering

Overall GPA: 3.67/4.30 or 87.15/100

Minor in Computer Science

RESEARCH INTERESTS

Machine Learning, Distributed Optimization, Federated Learning, Reinforcement Learning, Control and Dynamical Systems

PUBLICATIONS AND PREPRINTS

5. **On the Stability Analysis of Open Federated Learning Systems**

Youbang Sun, Heshan Fernando, Tianyi Chen, Shahin Shahrampour

The 2023 American Control Conference (ACC), Accepted, Dec. 2022

4. **On Centralized and Distributed Mirror Descent: Exponential Convergence Analysis Using Quadratic Constraints**

Youbang Sun, Mahyar Fazlyab, Shahin Shahrampour

IEEE Transactions on Automatic Control (TAC), Accepted, Nov. 2022

3. **Distributed Mirror Descent with Integral Feedback: Asymptotic Convergence Analysis of Continuous-time Dynamics**

Youbang Sun, Shahin Shahrampour

IEEE Control Systems Letters (L-CSS), Accepted, Oct. 2020

2. **Linear Convergence of Distributed Mirror Descent with Integral Feedback for Strongly Convex Problems**

Youbang Sun, Shahin Shahrampour

IEEE conference on Decision and Control (CDC), Accepted, Aug. 2021

1. **Can I trust you more? Model-agnostic hierarchical explanations**

Michael Tsang, **Youbang Sun**, Dongxu Ren, Yan Liu

Arxiv preprint available (1812.04801)

INTERNSHIPS

Mitsubishi Electric Research Laboratories (MERL)

May. 2022 - Aug. 2022

Distributed Learning and Computing over Networks with Vehicular Data

Host: Dr. Jianlin Guo

RELEVANT COURSES

Machine Learning	Probability for Statistics
Gaussian Process and Computer Experiments	Convex Optimization
Learning and Optimization Over Networks	Stochastic Process
Linear Multi-variable Systems	Operations Research

TECHNICAL STRENGTHS

Programming Skills	Python, C/C++, R, MATLAB, JavaScript
Deep Learning Frameworks	Pytorch, Keras, Tensorflow
Software & Tools	HTML, LaTeX, Excel, Mathematica, Altium Designer, Keil

HONORS AND AWARDS

- 2023 ACC Student Travel Grant Award
- Graduate Scholarship for Outstanding Academic Achievements (Texas A&M University, Industrial and Systems Eng. Department)
- Gold Prize for Undergraduates(Top 5%-10%) (University of Science and Technology of China)
- Guanhua Scholarship for Undergraduates (University of Science and Technology of China)

Competition Awards

- Silver Prize of national level *National Undergraduate Electronic Design Contest (NUEDC), 2017*
- Gold Prize of provincial level *NUEDC, 2017*
- Silver Prize of provincial level *Chinese Physics Olympiad, 2014*

COMMUNICATION SKILLS AND LEADERSHIP

NUEDC

August 2017

Captain of a team of three

- We took the topic on robotics and built a platform controlling system that satisfies all the requirements
- Worked on control algorithm and object detection via camera

Class project for *Modern Software Engineering*

September 2017 - February 2018

Captain of a team of six

- We developed an online platform aimed for personal notification management and information distribution of students

Teaching assistant for *Electronic Design*

September 2017 - February 2018

T.A.

- The course and its experiments are mostly taught by T.A.s instead of teachers

Team project for *SUGAR ME310*

September 2018 - present

Captain of a team of eight, volunteer at the Global Kick-Off event

- SUGAR stands for Stanford University Global Alliance for Re-design
- This year-long project requires us to cooperate with another team from The Instituto Politecnico do Porto (P.Porto)