BOYA HOU

4038 ECE Building, 306 North Wright Street, Urbana, IL| boyahou2@illinois.edu| https://boyahou.github.io/

Education

University of Illinois, Urbana-Champaign January 2020 -
PhD student in Electrical and Computer Engineering GPA: 3.97/4.00
Advisor: Subhonmesh Bose

University of Illinois, Urbana-Champaign December 2019
Master of Engineering in Electrical and Computer Engineering GPA: 3.93/4.00

Zhejiang University March 2019
Bachelor of Engineering in Electrical Engineering GPA: 3.89/4.00

Research Interests

My research interests are in the intersection of machine learning and control theory. My research centers around efficient data-driven learning for effective control in uncertain environments. I draw on tools from applied mathematics, machine learning, and control theory to develop data-efficient decision-making algorithms with theoretical guarantees, with a focus on applications to electric power grid and sustainable transportation.

Publications and Preprints

- **B. Hou**, S. Sanjari, N. Dahlin, S. Bose, U. Vaidya, "Sparse Learning of Dynamical System in Reproducing Kernel Hilbert Space: An Operator-Theoretic Approach", accepted at *the Fortieth International Conference on Machine Learning (ICML)*, 2023**.**
- **B. Hou**, A.Reddy Ramapuram Matavalam, S.Bose, U.Vaidya, "Propagation of Uncertainty Through System Dynamics in Reproducing Kernel Hilbert Spaces with Data", presented as poster paper at *American Control Conference (ACC)*, 2023.
- **B. Hou**, S. Sanjari, N. Dahlin, S. Bose, "Compressed Decentralized Learning of Conditional Mean Embedding Operators in Reproducing Kernel Hilbert Space", presented at *the 37th Association for the Advancement of Artificial Intelligence (AAAI) Conference on Artificial Intelligence*, 2023.
- **B. Hou**, S. Bose and U. Vaidya, "Sparse Learning of Kernel Transfer Operators", presented at *Asilomar Conference on Signals, Systems, and Computers*, 2021.
- **B. Hou**, S. Bose, L. Marla and K. Haran, "Impact of Aviation Electrification on Airports: Flight Scheduling and Charging", under submission at *IEEE Transactions on Intelligent Transportation Systems.*
- **B. Hou**, S. Bose, and K. Haran, "Powering Electric Aircraft at O'Hare Airport: A Case Study", presented at *IEEE Power and Energy Society General Meeting*, 2020.

Teaching

Fall 2021, Teaching Assistant, ECE 365 Data Science and Engineering, UIUC

Boya Hou
PhD Candidate
Department of Electrical and Computer Engineering
University of Illinois, Urbana-Champaign

Awards

- Mavis Future Faculty Fellows (MF3), 2023-2024
- AAAI student scholarship, 2023
- Second place in United States Association for Energy Economics (USAEE) Case Competition, 2019.
- Outstanding Undergraduate Thesis of Zhejiang University, 2018.
- UCLA Cross-disciplinary Scholars in Science and Technology (CSST) Scholarship, 2017
- First-Class Scholarship of Zhejiang University, 2015.

Other Academic Activities

- Visiting Undergrad Scholar**,** Smart Grid Energy Research Center, UCLA. July 2017-Sep 2017
- Organizing Weekly reading group on Function Analysis. July 2021- Dec 2021

Technical Skills

Languages: Python, C, C++
Applications: OpenAI Gym, Matlab, Simulink, Sklearn, CVXPY, OrCAD, LabVIEW.