

# Landon Butler

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RESEARCH INTERESTS My research lies at the intersection of machine learning, signal processing, and game theory, inspired by applications in market design and transportation.

EDUCATION **University of California, Berkeley**  
Ph.D. candidate in Electrical Engineering and Computer Science 2027  
*Advised by Prof. Kannan Ramchandran*

**University of Pennsylvania**  
M.S.E. in Data Science 2022  
Thesis: Convolutional Learning on Multigraphs  
*Advised by Prof. Alejandro Ribeiro*

**University of Pennsylvania**  
B.S.E. in Systems Engineering 2022  
Concentration: Artificial Intelligence and Data Science  
Minors: Computer Science, Mathematics

FELLOWSHIPS NSF Graduate Research Fellowship 2022  
Littlejohn Fellowship, *University of Pennsylvania* 2021

AWARDS Best Paper Award, *Int. Conf. on Research in Air Transportation* 2022  
Best Paper Award, *Andrew P. Sage Memorial Conference* 2022  
Sidney Shore Award, *University of Pennsylvania* 2022  
Norman Gross Engineering Prize, *University of Pennsylvania* 2022  
Wolf Family Award in Systems Engineering, *University of Pennsylvania* 2021  
Excellence in Student Support, *University of Pennsylvania* 2021

PUBLICATIONS Journal Publications

1. *Convolutional Learning on Multigraphs*  
IEEE Transactions on Signal Processing, 2023  
Landon Butler, Alejandro Parada-Mayorga, and Alejandro Ribeiro
2. *Convolutional Filtering and Neural Networks with Non-Commutative Algebras*  
IEEE Transactions on Signal Processing, 2023  
Alejandro Parada-Mayorga, Landon Butler, and Alejandro Ribeiro
3. *Equitable Optimization of U.S. Airline Route Networks*  
Computers, Environment and Urban Systems, 2023  
Andy Eskenazi, Arnav Joshi, Landon Butler, and Megan Ryerson

Conference Papers

1. *Learning with Multigraph Convolutional Filters*  
ICASSP, 2023  
Landon Butler, Alejandro Parada-Mayorga, and Alejandro Ribeiro

2. *Democratizing Aviation Emissions Estimation: Development of an Open-Source, Data-Driven Methodology*  
ICRAT, 2022  
Andy Eskenazi, Landon Butler, Arnav Joshi, and Megan Ryerson
3. *Learning Connectivity for Data Distribution in Robot Teams*  
IROS, 2021  
Ekaterina Tolstaya, Landon Butler, Daniel Mox, James Paulos, Vijay Kumar, and Alejandro Ribeiro

#### TEACHING

**Teaching Assistant**, *University of Pennsylvania ESE Department*

- Statistics for Data Science, Spring 2021, Summer 2021
- Graph Neural Networks, Fall 2021
- Foundations of Data Science, Fall 2021

#### INTERNSHIPS

Software Engineering Intern at Strivr, Summer 2020

*Developed encryption architecture for end-to-end protection of telemetry data*

Electrical Engineering Intern at Kiewit, Summer 2016, 2017, 2018, 2019

*Designed plant circuitry across seven power generation projects*