

# Landon Butler

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RESEARCH INTERESTS	My research examines the theoretical foundations of online learning and algorithmic decision-making in complex systems, inspired by applications in market design and transportation.	
EDUCATION	<b>University of California, Berkeley</b>	
	Ph.D. candidate in Electrical Engineering and Computer Science	2027
	<i>Advised by Prof. Kannan Ramchandran</i>	
	<b>University of Pennsylvania</b>	
	M.S.E. in Data Science	2022
	Thesis: Convolutional Learning on Multigraphs <i>Advised by Prof. Alejandro Ribeiro</i>	
AWARDS	<b>University of Pennsylvania</b>	
	B.S.E. in Systems Engineering	2022
	Concentration: Artificial Intelligence and Data Science	
	Minors: Computer Science, Mathematics	
	Best Paper Award, <i>International Conference on Research in Air Transportation</i>	2022
	Best Paper Award, <i>Andrew P. Sage Memorial Conference</i>	2022
FELLOWSHIPS	Sidney Shore Award, <i>University of Pennsylvania</i>	2022
	Norman Gross Engineering Prize, <i>University of Pennsylvania</i>	2022
	Wolf Family Award in Systems Engineering, <i>University of Pennsylvania</i>	2021
	Excellence in Student Support, <i>University of Pennsylvania</i>	2021
PUBLICATIONS	NSF Graduate Research Fellowship	2022
	Littlejohn Fellowship, <i>University of Pennsylvania</i>	2021
	Preprints	
	1. <i>Convolutional Filtering and Neural Networks with Non-Commutative Algebras</i> arXiv:2108.09923, 2023	
	Accepted to IEEE Transactions on Signal Processing	
	Alejandro Parada-Mayorga, Landon Butler, and Alejandro Ribeiro	
	Journal Publications	
	1. <i>Convolutional Learning on Multigraphs</i> IEEE Transactions on Signal Processing, 2023	
	Landon Butler, Alejandro Parada-Mayorga, and Alejandro Ribeiro	
	2. <i>Equitable Optimization of U.S. Airline Route Networks</i> Computers, Environment and Urban Systems, 2023	
	Andy Eskenazi, Arnav Joshi, Landon Butler, and Megan Ryerson	

## Conference Papers

1. *Learning with Multigraph Convolutional Filters*  
International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2023  
Landon Butler, Alejandro Parada-Mayorga, and Alejandro Ribeiro
2. *Democratizing Aviation Emissions Estimation: Development of an Open-Source, Data-Driven Methodology*  
International Conference on Research in Air Transportation (ICRAT), 2022  
Andy Eskenazi, Landon Butler, Arnav Joshi, and Megan Ryerson
3. *Learning Connectivity for Data Distribution in Robot Teams*  
IEEE/RSJ International Conference on Intelligent Robots and Systems (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*