

Landon Butler

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| RESEARCH INTERESTS | My research examines the theoretical foundations of machine learning and algorithmic decision-making in complex systems, leveraging tools from game theory, network science, and economics. I have applied this work to the design of markets, the restructuring of airline route networks, and wireless communications. | |
| EDUCATION | University of California, Berkeley | |
| | Ph.D. candidate in Electrical Engineering and Computer Science | 2027 |
| | <i>Advised by Prof. Kannan Ramchandran</i> | |
| | University of Pennsylvania | |
| | M.S.E. in Data Science | 2022 |
| | Thesis: Convolutional Learning on Multigraphs <i>Advised by Prof. Alejandro Ribeiro</i> | |
| AWARDS | University of Pennsylvania | |
| | 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 |
| | NSF Graduate Research Fellowship | 2022 |
| | Littlejohn Fellowship, <i>University of Pennsylvania</i> | 2021 |
| TEACHING | Teaching Assistant , <i>University of Pennsylvania ESE Department</i> | |
| | • 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 | |
| | <i>Developed encryption architecture for end-to-end protection of telemetry data</i> | |
| | Electrical Engineering Intern at Kiewit, Summer 2016, 2017, 2018, 2019 | |
| PUBLICATIONS | <i>Designed plant circuitry across seven power generation projects</i> | |
| | Preprints | |
| | 1. <i>Convolutional Learning on Multigraphs</i> | |
| | arXiv:2209.11354, 2022 | |
| | Submitted to IEEE Transactions on Signal Processing | |
| | Landon Butler, Alejandro Parada-Mayorga, and Alejandro Ribeiro | |
| | 2. <i>Convolutional Filtering and Neural Networks with Non-Commutative Algebras</i> | |
| | arXiv:2108.09923, 2022 | |
| | Submitted to IEEE Transactions on Signal Processing | |
| | Alejandro Parada-Mayorga, Landon Butler, and Alejandro Ribeiro | |

Conference Papers

1. *Equitable Optimization of U.S. Airline Route Networks*
Andrew P. Sage Memorial Conference, 2022
Arnav Joshi, Andy Eskenazi, Landon Butler, and Megan Ryerson
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