# Alice J. Paul

**alicepaul.github.io**


CONTACT INFORMATION

alice_paul@brown.edu


ACADEMIC APPOINTMENTS

**Assistant Professor of Biostatistics, Teaching Scholar**
Brown University, 2020–Current.

**Assistant Professor of Applied Mathematics and Computer Science**
Franklin W. Olin College of Engineering, 2019–2020.

**Postdoctoral Research Associate**
Department of Biostatistics and the Data Science Initiative, Brown University, 2017–2019.
Advised By: Pedro Felzenszwalb.

EDUCATION

**Cornell University**, Ithaca, NY.
**Ph.D.** Operations Research and Information Engineering, August 2017.
Advised By: David P. Williamson.

**Harvey Mudd College**, Claremont, CA.
**B.S.** Mathematics with High Distinction, May 2012.

PUBLICATIONS

**Alice Paul** and David Williamson. *Easy Capacitated Facility Location Problems, with Connections to Lot-Sizing*, forthcoming in Operations Research Letters, 2020.

**Alice Paul**, Daniel Freund, Aaron Ferber, David Shmoys, and David Williamson. *Budgeted Prize-Collecting Traveling Salesman and Minimum Spanning Tree Problems*, Mathematics of Operations Research, 2019.

Amariah Becker and **Alice Paul**. *A Framework for Vehicle Routing Approximation Algorithms in Trees*, Algorithms and Data Structures Symposium, 2019.

Jacob Feldman, **Alice Paul**, and Huseyin Topaloglu. *Technical Note: Assortment Optimization with Small Consideration Sets,* Operations Research, 2019.

Jacob Feldman and **Alice Paul**. *Relating the Approximability of the Fixed Cost and Space Constrained Assortment Problems*, Production and Operations Management, 2018.

**Alice Paul**, Daniel Freund, Aaron Ferber, David Shmoys, and David Williamson. *Prize-Collecting Traveling Salesman with a Budget Constraint*, European Symposium on Algorithms, 2017.

**Alice Paul**, Jacob Feldman, and James Mario Davis. *Assortment Optimization and Pricing under a Nonparametric Tree Choice Model*, Manufacturing and Service Operations Management, 2017.

**Alice Paul**, Matthias Poloczek, and David P. Williamson. *Simple Approximation Algorithms for Balanced MAX 2SAT*, Algorithmica, 2017.

**Alice Paul**, Matthias Poloczek, and David P. Williamson. *Simple Approximation Algorithms for Balanced MAX 2SAT*, Latin American Theoretical Informatics Symposium, 2016.

**Alice Paul** and Nicholas Pippenger. *A Census of Vertices by Generations in Regular Tessellations of the Plane*, Electronic Journal of Combinatorics, 2011.

## Book Chapters

**Alice Paul** and Susan Martonosi. *Operations Research*, in Nathan Carter (ed.), *Data Science for Mathematicians*, 2020.

Daniel Freund, Ashkan Norouzi-Fard, **Alice Paul**, Shane Henderson and David B. Shmoys. *Data-Driven Rebalancing Methods for Bike-Share Systems*, in E. Chrisotomi et al. (ed.), *Analytics for the Sharing Economy: Mathematics, Engineering, and Business Perspectives*, 2020.

## Preprints

Pedro Felzenszwalb, Caroline Klivans, and **Alice Paul**. *Iterated Linear Optimization*, 2020.

Pedro Felzenszwalb, Caroline Klivans, and **Alice Paul**. *Clustering with Iterated Linear Optimization*, 2020.

Cassandra Overney and **Alice Paul**. *The Relationship between Public Transit and Bikeshare Ridership: Case Studies in Boston, Philadelphia, and Washington DC*, 2020.

## Invited Presentations

"Iterative Algorithms for Semidefinite Programming," American Mathematical Society Eastern Sectional Meeting, forthcoming 2021.
"Prize-Collecting TSP with a Budget Constraint," International Symposium on Math Programming, 2018.
"Data-Driven Optimization for Bike-Share Systems," Data Science Initiative Colloquium, Brown University, 2017.
"Prize-Collecting TSP with a Budget Constraint," European Symposium on Algorithms, 2017.
"Assortment Optimization for Choosy Customers," INFORMS, 2016.
"Assortment Optimization for Choosy Customers," INFORMS Revenue Management and Pricing Conference, 2016.
"Simple Approximation Algorithms for Balanced MAX 2SAT," LATIN, 2016.
"Revenue Management under a Nonparametric Ranking-Based Choice Model," INFORMS, 2015.
"Detecting Covert Members of Terrorist Networks," Young Women in Discrete Math, 2013.
"Detecting Covert Members of Terrorist Networks," INFORMS, 2012.

## Teaching Experience

**PHP 2650: Statistical Learning and Big Data**, Brown University, SP 2021.
**PHP 1560/2560: Statistical Programming in R**, Brown University, FA 2020.
**PHP 2550: Practical Data Analysis**, Brown University, FA 2020.
**ENGR 3599: Data Structures and Algorithms**, Olin College, SP 2020.
**MTH 1111/SCI 1111: Modeling and Simulation of the Physical World**, Olin College, FA 2019.
**DATA 2020: Probability, Statistics, and Machine Learning**, Brown University, SP 2019.
**DATA 2020: Probability, Statistics, and Machine Learning**, Brown University, SP 2018.
**ENGRI 1101: Engineering Applications of Operations Research**, Cornell University, FA 2016.
**ORIE 3310: Optimization II**, Cornell University, SU 2015.

## Advising and Mentoring

Cassandra Overney, Undergraduate Research Student, Olin College, Fall 2019-Fall 2020.
Manu Patil, Undergraduate Research Student, Olin College, Spring 2020.
Victoria McDermott, Independent Study, Olin College, Fall 2019.
Pravallika Dhulipalla, Independent Study, Olin College, Fall 2019.
Emily Jaekle, Masters Capstone Advisor, Brown University, Summer 2018.
Sibel Kadioglu, Masters Capstone Advisor, Brown University, Summer 2018.
Daniel Suh, Undergraduate Research Student, Brown University, Summer 2018.

## Departmental Service

Masters in Biostatistics Admission Committee. Department of Biostatistics, Brown University, Spring 2021.
Masters of Public Health Admissions Committee. School of Public Health, Brown University, Spring 2021.

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| Teaching Training | Sheridan Center Junior Faculty Teaching Fellows Program. Brown University, Fall 2020 - Spring 2021.<br>Sheridan Center Anchor Program. Brown University, Fall 2020. |

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| Honors and Awards | NDSEG Fellow | Sage Diversity Fellowship |
| | INFORMS Undergraduate Research Prize 2012 | Sherri Koenig Stuewer Graduate Fellowship |
| | ORIE Teaching Assistant of the Year 2013-2014 | Harvey S. Mudd Scholar |

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| Reviewer | Operations Research, Algorithmica, Operations Research Letters, Mathematical Programming, SIAM Journal of Discrete Mathematics, Probability in the Engineering and Informational Sciences. |