# Bradley Sturt


PERSONAL

**Name**: Bradley Eli Sturt
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RESEARCH INTERESTS

Optimization under uncertainty (robust, stochastic, dynamic) and machine learning, with applications in revenue management, finance, and supply chain management.

ACADEMIC EMPLOYMENT

**University of Illinois at Chicago**, Chicago, IL — *2020 - Present*
*Assistant Professor of Business Analytics*

EDUCATION

**Massachusetts Institute of Technology**, Cambridge, MA — *2015 - 2020*
Ph.D. in Operations Research
GPA: 5.00/5.00

**University of Illinois Urbana Champaign**, Champaign, IL — *2010 - 2014*
B.S. in Computer Engineering, minor in Technology and Management
GPA: 3.97/4.00

PH.D THESIS

"Dynamic Optimization in the Age of Big Data," MIT, April 2020.

SELECTED AWARDS

**INFORMS Junior Faculty Interest Group (JFIG) Paper Competition, Second Place, 2021**

The competition is held each year to encourage research among junior faculty and to increase the visibility of research conducted by junior faculty within the fields of operations research and management science. Awarded for solo-author paper titled "A nonparametric algorithm for optimal stopping based on robust optimization".

**MIT Operations Research Center Student Paper Competition, First Place, 2019**

Awarded to one paper written by students each year in the MIT ORC PhD Program, recognizing outstanding achievement in operations research. Awarded for paper titled "A data-driven approach to multi-stage stochastic linear optimization" with D. Bertsimas and S. Shtern.

**MIT Sloan Outstanding Teaching Assistant Award, 2017**

Awarded to one graduate student in the MIT Sloan School of Management each academic year for excellence in MBA teaching. Nominated and selected by MBA students as a teaching assistant in Fall 2016 for the class "15.060: Data, Models and Decisions".

**INFORMS George Nicholson Student Paper Competition, Second Place, 2017**

The competition is held each year to honor outstanding papers in the field of operations research and the management sciences written by a student. Awarded for paper titled "Computation of the bootstrap: complexity, exact algorithms and deterministic approximations" with D. Bertsimas.

## Research

* Author names are listed in alphabetical order

**Under Review**

1. On the sparsity of optimal linear decision rules in robust inventory management
   H. Lu and B. Sturt*

2. The value of robust assortment optimization under ranking-based choice models
   B. Sturt
   **Management Science** (invited for first round revision - major revision)

3. A nonparametric algorithm for optimal stopping based on robust optimization
   B. Sturt
   **Operations Research** (invited for first round revision - major revision)
   - 2nd Place in the INFORMS Junior Faculty Interest Group (JFIG) Paper Competition, 2021

**Journal Papers**

4. Dynamic optimization with side information
   D. Bertsimas, C. McCord, and B. Sturt*
   **European Journal of Operational Research**, forthcoming, 2022

5. A data-driven approach to multi-stage stochastic linear optimization
   D. Bertsimas, S. Shtern, and B. Sturt*
   **Management Science**, forthcoming, 2021
   - Winner of the MIT Operations Research Center Student Paper Competition, 2019

6. Two-stage sample robust optimization
   D. Bertsimas, S. Shtern, and B. Sturt*
   **Operations Research**, Vol. 70, No. 1, pp. 624-640, 2022

7. Computation of exact bootstrap confidence intervals: Complexity and deterministic algorithms
   D. Bertsimas and B. Sturt*
   **Operations Research**, Vol. 68, No. 3, pp. 949-964, 2020
   - 2nd Place in the INFORMS George Nicholson Student Paper Competition, 2017

8. The path most traveled: Travel demand estimation using big data resources
   J. Toole, S. Colak, B. Sturt, L. Alexander, A. Evsukoff, and M. C. González
   **Transportation Research Part C: Emerging Technologies**, Vol. 58, pp.162-177, 2015

**Peer Reviewed Conference Papers**

9. Personalized entity recommendation in heterogeneous information networks with implicit user feedback
   X. Yu, X. Ren, Y. Sun, Q. Gu, B. Sturt, U. Khandelwal, B. Norick, and J. Han
   **Proceedings of the 7th ACM International Conference on Web Search and Data Mining**, pp. 283-292, 2014

10. HeteRec: Entity recommendation in heterogeneous information networks with implicit user feedback
    X. Yu, X. Ren, Y. Sun, B. Sturt, U. Khandelwal, Q. Gu, B. Norick, and J. Han
    **Proceedings of the 7th ACM Conference on Recommender Systems**, pp. 347-350, 2013.

## Invited Talks

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| Seminars & Workshops | University of Texas Austin, Operations Research and Industrial Engineering | *November 2021* |
| | Washington University in St. Louis, Olin Business School, BCSCI Research Seminar | *November 2021* |
| | Robust Optimization Webinar (ROW) | *November 2020* |
| | University of Wisconsin Madison, Industrial and Systems Engineering | *January 2020* |
| | University of Michigan, Industrial and Operations Engineering | *December 2019* |
| | Indiana University, Kelley School of Business | *December 2019* |
| | University of Illinois at Chicago, College of Business Administration | *December 2019* |
| | Princeton University, Operations Research and Financial Engineering | *November 2019* |
| | University of Illinois Urbana-Champaign, Gies College of Business | *November 2019* |
| | Oracle Labs (USA East Office), ML Research Seminar Series | *November 2019* |
| | MIT Operations Research Center, ORC Seminar | *September 2019* |
| | CMU Tepper School of Business, YinzOR Workshop | *August 2019* |
| | Technion Industrial Engineering, Quant Seminar | *January 2019* |
| | BIRS Workshop on "Models and Algorithms for Sequential Decision-Making under Uncertainty", Banff | *January 2019* |
| Conferences | INFORMS Annual Meeting, Virtual | *October 2021* |
| | SIAM Conference on Optimization (OP21), Virtual | *July 2021* |
| | INFORMS Annual Meeting, Virtual | *October 2020* |
| | International Conference on Continuous Optimization (ICCOPT), Berlin | *August, 2019* |
| | INFORMS Annual Meeting, Seattle | *October 2019* |
| | INFORMS Annual Meeting, Phoenix | *November 2018* |
| | International Symposium on Mathematical Programming (ISMP), Bordeaux | *August 2018* |
| | INFORMS Annual Meeting, Houston | *October 2017* |

## Service

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| Ad-hoc Reviewer | Management Science, Operations Research, Mathematics of Operations Research, Manufacturing & Service Operations Management, SIAM Journal on Optimization, Production and Operations Management, INFORMS Journal on Optimization, INFORMS Journal on Computing |

## Teaching

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|---|---|---|
| Instructor | **University of Illinois at Chicago** | |
| | IDS 472, Business Data Mining | *Spring 2022* |
| | IDS 516, Data Analytics for Business Professionals (Instructor Evaluation: **4.75/5.0**) | *Fall 2021* |
| | IDS 270, Statistics I for Business Scholars (Instructor Evaluation: **3.63/5.0**) | *Fall 2021* |
| | IDS 472, Business Data Mining (Instructor Evaluation: **4.61/5.0**) | *Spring 2021* |
| | IDS 270, Statistics I for Business Scholars (Instructor Evaluation: **4.38/5.0**) | *Fall 2020* |
| | **Massachusetts Institute of Technology** | |
| | 15.S60, Computation in Optimization and Statistics | *January 2017, 2018, 2019* |
| Teaching Assistant | **Massachusetts Institute of Technology** | |
| | 15.097, Robust Optimization (TA Evaluation: **6.5/7.0**) | *Spring 2019* |
| | 15.778, Introduction to Operations Management (TA Evaluation Score: **6.7/7.0**) | *Summer 2018* |
| | 15.093, Optimization Methods (TA Evaluation Score: **7.0/7.0**) | *Fall 2017* |
| | 15.060, Data Models and Decisions (TA Evaluation Score: **6.7/7.0**) | *Fall 2016* |

## Industry and Computing

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| Industry Employment | **Facebook**, Menlo Park, CA<br>*Data Scientist Intern* | *Summer 2015* |
| | **Google**, Mountain View, CA<br>*Software Engineering Intern* | *Summer 2013* |
| | **Garmin**, Olathe, KS<br>*Software Engineering Intern* | *Summer 2012* |
| Computing | R, Python, Julia, C++, x86 Assembly | |
| Last updated | March 24, 2022 | |