

## Aras Selvi

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### Education

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**Imperial College London**, London, UK

Ph.D., Operations Research 2024 (Expected)

Supervisor: Wolfram Wiesemann

Fellowship: The Alan Turing Institute 2022-23 Enrichment Placement

M.Res., Operations Research and Business Analytics (Distinction) 2020

Awards: Dean's List for Academic Excellence

**Tilburg University**, Tilburg, The Netherlands

M.Res., Operations Research (Cum Laude) 2019

**Ozyegin University**, Istanbul, Turkey

B.Sc., Industrial Engineering (High Honor) 2017

Awards: Dean's List, ranked 2<sup>nd</sup> among 125 Faculty of Engineering graduates

Exchange: Queensland University of Technology, Brisbane, Australia

Minor, Computer Science (High Honor)

### Research Interests

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**Topics:** Robust optimization, robust learning, decision making under uncertainty, computational privacy

**Methodologies:** Optimization theory & algorithms, convex analysis, learning theory, information theory

### Research Papers

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#### Published Work

**Selvi, A.**, Ben-Tal, A., Brekelmans, R., & Den Hertog, D. (2022). Convex maximization via adjustable robust optimization. **INFORMS Journal on Computing** 34(4):2091-2105. Available on [\[Optimization Online\]](#)

- Winner of the 2021 INFORMS Computing Society Best Student Paper Award [\[Link\]](#)

**Selvi, A.**, Den Hertog, D., & Wiesemann, W. (2021). A reformulation-linearization technique for optimization over simplices. Forthcoming in **Mathematical Programming**. Available on [\[Optimization Online\]](#), [\[Springer\]](#)

**Selvi, A.**, Belbasi, R., Haugh M., & Wiesemann, W. (2022). Wasserstein Logistic Regression with Mixed Features. **NeurIPS22**. Available on [\[Optimization Online\]](#), [\[NeurIPS conference page\]](#)

Roebers, L. M., **Selvi, A.**, & Vera, J. C. (2019). Using column generation to solve extensions to the Markowitz model. **The Engineering Economist**, 64(3):275-288. Available on [\[arXiv\]](#), [\[Taylor & Francis\]](#)

#### Under Review & Working Papers

**Selvi, A.**, Liu, H., & Wiesemann, W. (2022). Differential privacy via distributionally robust optimization. Under Review.

**Selvi, A.**, Ben-Tal, A., & Wiesemann, W. (2022). Maximizing the sum of maxima of convex functions.

Belbasi, R., **Selvi, A.**, Haugh M., & Wiesemann, W. (2023). Cutting-plane methods for Wasserstein classification.

Wang, Z., **Selvi, A.**, Peura, H., Mikolon, S., & Wiesemann, W. (2023). Assortment optimization for donation collecting nonprofit organizations.

### Awards

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- PhD Placement Award: 9-month placement (starting October 2022) at **The Alan Turing Institute** HQ in London, with a £1,500 financial allowance and £472.5 monthly stipends to support research

- NeurIPS 2022 Scholar Award: Complimentary in-person registration and Hotel stay to attend the conference

- Winner: **2021 INFORMS Computing Society Best Student Paper Award**

- Honorable Mention: **2019 INFORMS O.R. & Analytics Student Team Competition**

- Outstanding/Top Reviewer, Complimentary Registration: ICML 2022, ICLR 2022, NeurIPS 2022

- President's Address 2022 Awardee: Named by Imperial College London president for global contributions

- Dean's List: Imperial College London, Ozyegin University
- Dean's Reception 2022: Invite-only event by the Dean of Imperial College Business School
- Undergraduate Scholarship: Ozyegin University Performance Scholarship (awarded to three students)
- Alumni Award: one of the 20 alumni who made a notable contribution to Ozyegin University (2019)
- Graduate Scholarship: Tilburg University Koopmans Scholarship, Imperial College Business School Funding

## Attended Conferences

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- Thirty-sixth Conference on Neural Information Processing Systems (New Orleans, USA) December, 2022
- PhD Winter School: Data Science, Optimization and Operations Research (Zinal, CH) January, 2022
- The Operational Research Society Annual Conference OR63 (Virtual) September, 2021
- Tenth International Conference on Learning Representations (Virtual) April, 2022
- Thirty-ninth International Conference on Machine Learning (Virtual) July, 2022

## Invited Talks

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- QuantumBlack - A McKinsey Company (London, UK) June, 2022
- Imperial College Operations Research PhD Seminar (London, UK) May, 2022
- BCG GAMMA (London, UK) May, 2022
- INFORMS Computing Society Conference (Tampa, USA) January, 2022
- Imperial-LBS-UCL Brown Bag Seminar Series (Virtual, UK) January, 2021
- Robust Optimization Webinars (Virtual) July, 2020
- INFORMS Business Analytics Conference (Austin, USA) April, 2019

## Teaching Experiences

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### Imperial College London

*Teaching assistant* for masters and MBA courses

- Mathematics and Statistics (MSc Business Analytics, MSc Business Analytics online) 2020-2023
- Optimisation and Decision Models (MSc Business Analytics online) 2021-2023
- Fundamentals of Database Technologies (MSc Business Analytics online) 2021
- Machine Learning (MSc Business Analytics online) 2021
- Big Data, AI & Machine Learning (MBA) 2021-2022
- Data Structures and Algorithms with Python (MSc Fintech, MSc RMFE, MSc Business Analytics) 2021
- Centre for Process Systems Engineering Optimisation Course for Professionals 2020

### London Business School

*Teaching assistant* for masters and MBA courses

- Data Science for Business Analytics and Management (Masters in Analytics and Management) 2020-2022
- Data Mining for Business Intelligence (MBA) 2021
- Applied Statistics (Masters in Analytics and Management) 2022
- Data Analytics for Managers (MBA & MiM) 2022

### London School of Economics

*Class teacher* for masters courses

- Algorithmic Techniques for Data Mining (MSc Applied Mathematics, MSc Operations Research) 2019-2022

### Emeritus

*Subject matter expert* for online certificate course

- ICBS Professional Certificate in Machine Learning and Artificial Intelligence 2021-2022

### Tilburg University

*Teaching assistant* for masters and undergraduate courses

- Mathematics (BSc Social Sciences) 2019
- Decision Making for Business Analytics (MSc Business Analytics and Operations Research) 2018

### Ozyegin University

*Teaching assistant* for undergraduate courses

- Operations Research I (BSc Industrial Engineering) 2017
- Productions Systems Analysis (BSc Industrial Engineering) 2017
- Physics 102 (All Engineering Undergraduates) 2016

## Skills

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Programming: Python, Julia, MATLAB, C++, R, Optimization Solvers, Machine Learning Packages, SQL, L<sup>A</sup>T<sub>E</sub>X  
Language: Turkish (Native), Armenian (Native), English (Advanced), German (Beginner)

## Memberships & Fellowships

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- Fellow: Imperial Business Analytics, Data Science Institute (DSI)
- Member: Computational Optimisation Group of Department of Computing (Imperial College London)
- (Past) Board member: Graduate Student Society and MRes Education Committee of Tilburg University

## Service

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- Reviewer: Operations Research, Management Science, Manufacturing & Service Operations Management, SIAM Journal on Optimization, INFORMS Journal on Computing, Mathematical Programming Computation, Computational Management Science, Optimization Letters, Operations Research Letters, European Journal of Operations Research
- Conference Reviewer: ICLR (2022 [highlighted reviewer](#)), NeurIPS (2021, 2022 [Top Reviewer](#)), AISTATS (2022, 2023), ICML (2022 [outstanding reviewer](#), invited as a session chair)
- Academic Ambassador of Imperial College London's PhD Programme in Operations Research
- Member of INFORMS and The Operational Research Society
- (Past) Volunteer instructor: Robin Code Turkey, Dreams Academy Istanbul, Hour of Code

## Industry Experience & Summer Internships

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Academic mentor on Data Spark Programme: <a href="#">KPMG UK</a> , <a href="#">Chatham House</a> (London, UK)	2019-2021
Pro bono consultant on analytics, major nonprofit organisation (confidential due to NDA)	2021-2023
Intern, Coca-Cola Icecek HQ (Istanbul, Turkey)	Summer 2015-2016
Intern, Metro Cash & Carry (Istanbul, Turkey)	Summer 2016
Intern, Fiba Factoring (Istanbul, Turkey)	Summer 2014
Intern, Anchor Grup (Bucharest, Romania)	Spring 2014

*Last updated October 10, 2022.*