Özge Sürer

Northwestern University, Department of Industrial Engineering and Management Sciences
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EDUCATION

Northwestern University   Evanston, IL
Ph.D. candidate in Industrial Engineering and Management Sciences   *Anticipated June 2020*
Advisors: Daniel W. Apley, Edward C. Malthouse

Thesis: Predictive Models for Group-Structured Regression Problems

Major in *Applied Statistics & Statistical Learning*; Minors in *Analytics* and *Optimization*

Center for the Integration of Research, Teaching and Learning (CIRTL) Scholar   *June 2019*

Boğaziçi University   İstanbul, Turkey
M.S. in Industrial Engineering   *January 2014*
Advisor: İ. Kuban Altinel

Thesis: Event and Clock-Based Representations of Time in Mathematical Optimization

İstanbul Technical University   İstanbul, Turkey
B.S. in Industrial Engineering   *June 2011*

RESEARCH INTERESTS

I am broadly interested in applied statistical learning and predictive models. More specifically, I have been working on the design of interpretable predictive models for 1) linear regression, 2) generalized linear models, and 3) longitudinal datasets, and their interdisciplinary applications.

PROFESSIONAL EXPERIENCE

United Airlines   Chicago, IL
Statistics and Operations Research Intern   *June 2019 – September 2019*

- Supported Spill & Recapture project team in benchmark studies through data analysis techniques and visualization
- Proposed a new approach for the existing column generation method to more accurately and efficiently model spill and recapture

Northwestern University   Evanston, IL
Research Fellow, Spiegel Digital & Database Research Center   *September 2016 – Present*

- Collaborated with research groups at Northwestern and DePaul University to optimize recommender systems in multisided platforms
- Supported ShopRunner's data analytics research team as a consultant

TEACHING EXPERIENCE

Northwestern University   Evanston, IL
Instructor, Industrial Engineering and Management Sciences Department   *Spring 2019*

- IEMS 303 Statistics (Undergraduate level)
  - Class size: 29, Instructor overall effectiveness: 5.35/6.00
  - Sole instructor for the course, which focuses on the foundations of statistics and statistical computing for data analysis and their applications, and covers descriptive statistics and statistical inference
  - Implemented a teaching project, titled "Confidence in Learning Statistics with R Programming Language," to improve student learning as a participant of The Searle Center Teaching-As-Research (STAR) program

Teaching Assistant, Industrial Engineering and Management Sciences Department

- IEMS 202 Probability (Undergraduate level)   Winter 2017, Spring 2018
- IEMS 303 Statistics (Undergraduate level)   Fall 2016/2018, Winter 2019
- MSIA 421 Data Mining (Master of Science in Analytics)   Winter 2018

Grader, Industrial Engineering and Management Sciences Department

- MEM 407 Decision Tools for Managers (Master of Engineering Management)   Fall 2017, Winter 2018

Bootcamp Instructor, Industrial Engineering and Management Sciences Department

- Statistics (Ph.D. level)   Fall 2016

Under Review/In Preparation

- **Özge Sürer**, Daniel W. Apley, Edward C. Malthouse. Coefficient tree regression: Fast, accurate and interpretable predictive modeling. Under-revision for *Journal of the American Statistical Association.*
- **Özge Sürer**, Daniel W. Apley, Edward C. Malthouse. Coefficient tree regression for discovering structure in generalized linear models. In preparation.
- **Özge Sürer**, Daniel W. Apley, Edward C. Malthouse. Discovering structure in longitudinal data via coefficient tree regression. In preparation.

Conference Proceedings

- **Özge Sürer**, Robin Burke, Edward C. Malthouse. Multistakeholder recommendation with provider constraints. *Proceedings of the 12th ACM Conference on Recommender Systems*, 54–62, 2018 (Acceptance rate: 18%).
- **Özge Sürer**. Improving similarity measures using ontological data. *Proceedings of the 11th ACM Conference on Recommender Systems*, 416–420, 2017 (Acceptance rate: 16.4%).

Journal Publications

- Seda Yanik, **Özge Sürer**, Başar Öztayşi. Designing sustainable energy regions using genetic algorithms and location-allocation approach. *Energy*, 161–172. 2016.

Book Chapters

- **Özge Sürer**, Sezi Çevik Onar, İlker Topçu. Innovation strategy evaluation process using fuzzy cognitive mapping. *Intelligent Techniques in Engineering Management*, 107–128, 2015.
- Başar Öztayşi, **Özge Sürer**. Supply chain performance measurement using a SCOR based fuzzy VIKOR approach. *Supply Chain Management Under Fuzziness*, 199–224, 2014.

Presentations & Invited Talks

- **Özge Sürer**, Daniel W. Apley, Edward C. Malthouse. Coefficient tree regression for discovering structure in generalized linear models. *INFORMS Annual Meeting*, Seattle, WA, 2019.
- **Özge Sürer**, Daniel W. Apley, Edward C. Malthouse. Discovering structure in longitudinal data via coefficient tree regression. *INFORMS Annual Meeting*, Seattle, WA, 2019.
- **Özge Sürer**, Daniel W. Apley, Edward C. Malthouse. Coefficient tree regression for discovering hidden structure. *INFORMS Annual Meeting*, Phoenix, AZ, 2018.
- **Özge Sürer**, Daniel W. Apley, Edward C. Malthouse. Coefficient tree regression for discovering hidden structure. *The Midwest Machine Learning Symposium*, Chicago, IL, 2018.
- **Özge Sürer**, Robin Burke, Edward C. Malthouse. Multistakeholder recommendation with provider constraints. *The 12th ACM Conference on Recommender Systems*, Vancouver, Canada, 2018.
- **Özge Sürer**. Improving similarity measures using ontological data. *The 11th ACM Recommender Systems Doctoral Symposium*, Como, Italy, 2017.
- Gökalp Erbeyoğlu, **Özge Sürer**, Evren Güney, İ. Kuban Altinel, Necati Aras, Bora Çekyay, Gönenç Yücel. Influence maximization in social networks. *The 35th National Conference for Operations Research and Industrial Engineering*, Ankara, Turkey, 2015.
- **Özge Sürer**, İ. Kuban Altinel. Event and clock-based representations in mathematical optimization. *The 34th National Conference for Operations Research and Industrial Engineering*, Bursa, Turkey, 2014.
- **Özge Sürer**. Simulated annealing algorithm with variable cluster number and comparison with k -means algorithm. *The 26th European Conference on Operational Research*, Rome, Italy, 2013.
- **Özge Sürer**, Sezi Çevik Onar, İlker Topçu. A multi-criteria based evaluation of innovation strategy selection. *The 25th European Conference on Operational Research*, Vilnius, Lithuania, 2012.

Awards & Honors

- Walter P. Murphy Fellowship for outstanding first year PhD students at Northwestern, Evanston, IL, 2015–2016
- The Scientific and Technological Research Council of Turkey (TUBİTAK) Scholarship, Turkey, 2011–2015
- The Council of Higher Education (YÖK) Undergraduate Scholarship, Turkey, 2006–2011

Service & Professional Activities

- Session chair for Interpretable Predictive Models track, INFORMS, Seattle, WA, October 20–23, 2019
- Session chair for Intriguing Tweaks in Data Science I track, INFORMS, Phoenix, AZ, November 4–7, 2018
- Participant, INFORMS Doctoral Student Colloquium, Houston, TX, October 22–25, 2017
- Participant, The ACM Summer School on Recommender Systems, Como, Italy, August 21–25, 2017
- Conference organizing committee member, Global Conference on Engineering and Technology Management, İstanbul, Turkey, June 23–26, 2014
- Session chair for Health Economics track, Global Conference on Healthcare Systems Engineering, İstanbul, Turkey, August, 5–8, 2014
- Session chair for Artificial Intelligence, Fuzzy Systems track, EURO 2013, Rome, Italy, July 1–4, 2013

Software Development

- R "CTR" package: For the application of coefficient tree regression (CTR)