FURKAN GÜRSOY

Contact Information

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Summary

Researcher with an interdisciplinary background in network science, machine learning, simulation, and data science at large. 4+ years industry experience in information systems solutions and machine learning. Demonstrated history of working in international and interdisciplinary research teams. Experience in course development and instruction. Current research interest lies in analysis of and learning from complex systems.

Education

Summer 2021 – Aug 2017 — **PhD in Management Information Systems at Bogazici University**
Concentration on complex networks, machine learning, complex systems, and simulation. *GPA: 3.81/4.00*
Visiting Researcher at *IMT Atlantique, France* in Fall'20.
Thesis: *Machine Learning on Dynamic Networks* supervised by Prof. Bertan Badur.

Aug 2017 – Sep 2014 — **MS in Data Science (Comp. Sci. & Eng.) at Istanbul Sehir University**
Concentration on social networks and machine learning. *GPA: 3.89/4.00*
Exchange Student at *Czech Technical University in Prague* in Spring'16.
Thesis: *Targeted and Budgeted Influence Maximization in Social Networks under Deterministic Linear Threshold Model* supervised by Prof. Dilek Gunnec from Ozyegin University.

Jun 2014 – Sep 2010 — **BS in Management Information Systems at Bogazici University**
Graduated as top scoring student in the faculty. *GPA: 3.91/4.00*
Graduation project: *Data Mining with R* supervised by Prof. Bertan Badur.

Industry Experience

Mar 2020 – Nov 2018 — **Data Scientist at Kuveyt Turk Participation Bank, Kocaeli, Turkey**
I worked in an independent unit which served other departments in a project-based fashion using ML capabilities. My responsibilities included business understanding, solution design, feature engineering, building predictive data models, deployment, testing, and maintenance. I led (i) in-house Data Scientist training program where the participants completed 6 projects some of which are deployed to production, and (ii) personal credit card limit estimation project. I markedly contributed to projects on (iii) automated SME credit line decisions, (iv) branch workload prediction, and (v) analysis of customers' financial network. All but (v) are deployed to production.

Aug 2017 – Jun 2014 — **Assist. & Assoc. Consultant at Planist IT Services and Consulting, Istanbul, Turkey**
I analyzed, designed, and developed automated reports and executive dashboards for our large corporate clients based in Turkey and abroad. Participated in analysis, design, development, training, and support of our OLAP-based corporate performance management solutions.

Jun-Sep '13 — **Intern at The British International School, London, United Kingdom**

Feb-May '11 — **Intern at Mediacom, Istanbul, Turkey**

Teaching Experience

Instructor

- IE 404 - Social Network Analysis, Abdullah Gül University, Kayseri, Turkey
  I developed the course and taught it as the sole instructor in Fall'19.

- DA 516 - Social Network Analysis, Sabancı University, Istanbul, Turkey

Teaching Assistant

- MIS 542 - Data Mining Concepts and Techniques, Bogaziçi University, Istanbul, Turkey (Fall'17, '18, '20)

- MIS 331 - Data Mining, Bogaziçi University, Istanbul, Turkey (Fall'18)

- BIS 541 - Data Mining and Knowledge Acquisition, Bogaziçi University, Istanbul, Turkey (Spring'18, '19)

- MIS 336 - Business Application Development, Bogaziçi University, Istanbul, Turkey (Spring'18)

Other

- *Guide* at DeepLearning.ai Study Group, inzva, Istanbul, Turkey (2021)
- *Designer and Instructor* at Data Scientist Training Program, Kuveyt Türk, Kocaeli, Turkey (2019)

PUBLICATIONS

Refereed Publications

- M. Altin, **F. Gursoy**, and L. Xu. Machine-Generated Hierarchical Structure of Human Activities to Reveal How Machines Think. IEEE Access. 2021. https://doi.org/10.1109/ACCESS.2021.3053084
- **F. Gursoy** and O. Durahim. Predicting Diffusion Reach Probabilities via Representation Learning on Social Networks. 5th Int'l Management Information Systems Conference, Ankara, Turkey. 2018. https://arxiv.org/abs/1901.03829
- **F. Gursoy** and B. Badur. A Community-aware Network Growth Model for Synthetic Social Network Generation. 5th Int'l Management Information Systems Conference, Ankara, Turkey. 2018. https://arxiv.org/abs/1901.03629
- **F. Gursoy** and D. Gunnec. Influence maximization in social networks under Deterministic Linear Threshold Model. Knowledge-Based Systems. 2018. https://doi.org/10.1016/j.knosys.2018.07.040
- M. Ozturan, **F. Gursoy,** and B. Ceken. An empirical analysis on the effects of investment assessment methods on IS/IT project success. International Journal of Information Systems and Project Management. 2019. https://doi.org/10.12821/ijispm070402

Under Review

- **F. Gursoy**, M. Haddad, and C. Bothorel. Alignment and stability of embeddings: measurement and inference improvement. https://arxiv.org/abs/2101.07251
- **F. Gursoy** and B. Badur. Extracting the signed backbone of intrinsically dense weighted networks. https://arxiv.org/abs/2012.05216
- **F. Gursoy** and B. Badur. An agent-based modelling approach to brain drain.
- **F. Gursoy**. System dynamics modeling for sustainable higher education: a review and systems thinking perspective.

Working Papers

- Dynamic latent space modeling of the World trade network, *with* B. Badur
- The detection of citation cartels in Web of Science over time, *with* J. Vlegels, ...
- Telecom customer churn prediction, with R. Yasar and S. Mardikyan
- Discontinuance intentions toward Facebook use: value theory and network effects, *with* H. Turker
- On collaboration networks of GitHub software development communities, *with* B. Cinget, A. van der Marel, M. T. Pham, G. Smith-Vidaurre, J.G. Young

PROGRAMMING AND DEVELOPMENT SKILLS

PYTHON:	NumPy, pandas, statsmodels, scikit-learn, NetworkX, Keras, PyTorch
R:	statistics, data mining, time series, network analysis
JAVA:	fundamentals, object-oriented programming
OTHER:	MS Excel, SQL, SPSS, Amos, Weka, RapidMiner, Gephi, NetLogo, Stella, C# .NET, LaTeX

AWARDS, GRANTS AND SCHOLARSHIPS

2020 - 2020	French Embassy Research Fellowship
2020 - 2021.	Sci. and Tech. Research Council of Turkey (TUBITAK) 2211-A Scholarship
2017 - 2021.	Council of Higher Education, Turkey (YOK) 100/2000 Scholarship
2014 - 2017	Sci. and Tech. Research Council of Turkey (TUBITAK) 2210-A Scholarship
JUN 2014	Rectorate Award
	Given each year to one student who has contributed to the university community and the society with his extracurricular activities, and demonstrated outstanding academic performance.
2013, 2014	Google Online Marketing Challenge Finalist
	Among the top 5 teams in MEA and top 20 teams worldwide in both 2013 and 2014 challenges.

Workshops and Advanced Schools

- Complex Networks Winter Workshop, Jan 2021, Virtual.
  Project: Financial Markets and Complex Networks
  Project: Collaboration and Social Networks on Github

- Winter Workshop on Complex Systems, Jan 2020, Gruyère, Switzerland.
  Project: The detection of citation cartels in Web of Science over time (1997-2017)
  Project: Effect of news feed ranking on opinion coexistence in Reddit-like platforms

- Complexity72H Workshop, June 2019, Lucca, Italy.
  Project: Community Detection in the Hyperbolic Space. https://arxiv.org/abs/1906.09082

- inzva AI Projects 3, Fall 2019, Istanbul, Turkey.
  Project: Combinatorial Optimization with Reinforcement Learning. https://github.com/inzva/combinatorial-optimization-with-RL

- inzva AI Projects 2, Spring 2019, Istanbul, Turkey.
  Project: Image Restoration/Learning to See in the Dark. https://github.com/inzva/image-restoration

Presentations

Contributed Talks

- Signed backbone extraction from intrinsically dense weighted networks. Conference on Complex Systems, Online, December 2020.

- Hyperbolic Representation Learning. Official NeurIPS 2019 Meetup in Istanbul, inzva, Istanbul, December 2020.

- Telecom customer churn prediction. Business Analytics Workshop, Sabanci University, Istanbul, April 2019. (Poster Presentation)

- Influence Maximization in Social Networks. Business Analytics Workshop, Sabanci University, Istanbul, October 2017. (Poster Presentation – Best Poster Award)

Invited Talks

- Dynamic Network Representation Learning and its Applications in the World Trade Network. DECIDE Seminar, IMT Atlantique, November 2020.

- Social Network Analysis with R. R-Ladies Istanbul, November 2019.

- Influence Maximization in Social Networks. Data Science Lab, Istanbul Sehir University, November 2015.

Other work presented by co-authors

- Influence Maximization in Social Networks. INFORMS Annual Meeting, Seattle, Washington, October 2019.

- Influence Maximization in Social Networks. European Conference on Operational Research (EURO), Dublin, Ireland, June 2019.

- Influence Maximization in Social Networks. Cologne-Twente Workshop on Graphs and Combinatorial Optimization, Paris, June 2018.

Academic Service

- **Reviewer:** Information Sciences, PLOS ONE, Future Generation Computer Systems, IJISPMz, EJISDC.

- **Workshop Organization Committee Member:** CCS 2020 Warm-Up, Winter Workshop on Complex Systems 2022.

- **Society Member:** Elected Member of the Advisory Board of Young Researchers of CSS (2020-2022), Network Science Society (2020 - *present*), Founding Member of MyData Global (2018).

- **Grant Review Committee Member:** NetSci2020 Registration Support, yrCSS Bridge Grants, yrCSS Scholarships for Events on Complex Systems.

References

References from current and previous professors and employers can be made available upon request.