

FURKAN GÜRSOY

CONTACT INFORMATION

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SUMMARY

Researcher with an interdisciplinary background in network science, machine learning, simulation, and broadly defined data science. 4+ years industry experience in data analytics and machine learning. Demonstrated history of working in international and interdisciplinary research teams. Experience in course development and instruction. Main research interests lie in analysis of and learning from complex networks.

EDUCATION

JUL 2021	PhD in Management Information Systems at BOGAZICI UNIVERSITY
AUG 2017	Concentration on network science, machine learning, and complex systems. GPA: 3.81/4.00 Visiting Researcher at <i>IMT Atlantique, France</i> in Fall'20. Thesis: <i>Machine Learning on Dynamic Networks</i> supervised by Prof. Bertan Badur.
AUG 2017	MS in Data Science (Comp. Sci. & Eng.) at ISTANBUL SEHIR UNIVERSITY
SEP 2014	Concentration on social networks and machine learning. GPA: 3.89/4.00 Exchange Student at <i>Czech Technical University in Prague</i> in Spring'16. Thesis: <i>Targeted and Budgeted Influence Maximization in Social Networks under Deterministic Linear Threshold Model</i> supervised by Prof. Dilek Gunec from Ozyegin University.
JUN 2014	BS in Management Information Systems at BOGAZICI UNIVERSITY
SEP 2010	Graduated as top scoring student in the faculty. GPA: 3.91/4.00 Graduation project: <i>Data Mining with R</i> supervised by Prof. Bertan Badur.

PUBLICATIONS

Refereed Publications

- F. Gursoy and B. Badur. Extracting the signed backbone of intrinsically dense weighted networks. *Journal of Complex Networks*. (Accepted for publication) <https://arxiv.org/abs/2012.05216>
- F. Gursoy and B. Badur. (2021). An agent-based modelling approach to brain drain. *IEEE Transactions on Computational Social Systems*. (Early Access) <https://doi.org/10.1109/TCSS.2021.3066074>
- M. Altin, F. Gursoy, and L. Xu. (2021). Machine-Generated Hierarchical Structure of Human Activities to Reveal How Machines Think. *IEEE Access*, vol. 9, pp. 18307-18317. <https://doi.org/10.1109/ACCESS.2021.3053084>
- M. Ozturan, F. Gursoy, and B. Ceken. (2019). An empirical analysis on the effects of investment assessment methods on IS/IT project success. *International Journal of Information Systems and Project Management*, Vol. 7, No. 4, 33-52. <https://doi.org/10.12821/ijispm070402>
- F. Gursoy and O. Durahim. (2018). Predicting Diffusion Reach Probabilities via Representation Learning on Social Networks. 5th Int'l Management Information Systems Conference, Ankara, Turkey. <https://doi.org/10.6084/m9.figshare.7565894>
- F. Gursoy and B. Badur. (2018). A Community-aware Network Growth Model for Synthetic Social Network Generation. 5th Int'l Management Information Systems Conference, Ankara, Turkey. <https://doi.org/10.6084/m9.figshare.7582082>
- F. Gursoy and D. Gunec. (2018). Influence maximization in social networks under Deterministic Linear Threshold Model. *Knowledge-Based Systems*, 161, 111-123. <https://doi.org/10.1016/j.knosys.2018.07.040>

Submitted Work

- F. Gursoy, M. Haddad, and C. Bothorel. Alignment and stability of embeddings: measurement and inference improvement. <https://arxiv.org/abs/2101.07251> (Under review in *Knowledge-Based Systems*)

Work in Progress

- Investigating internal migration with network analysis and machine learning: an application to Turkey, *with* B. Badur
- 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, ...
- On collaboration networks of GitHub software development communities, *with* B. Cinget, A. van der Marel, M. T. Pham, G. Smith-Vidaurre, J.G. Young, ...
- On network formation games, *with* A. Antonioni
- Telecom customer churn prediction, *with* R. Yasar and S. Mardikyan
- Discontinuance intentions toward Facebook use: value theory and network effects, *with* H. Turker
- System dynamics modeling for sustainable higher education: a review and systems thinking perspective

TEACHING EXPERIENCE

Instructor

- DA 516 - Social Network Analysis, Sabanci University, Istanbul, Turkey (Sole Instructor, Spring'21)
- BIS 501 - Tech. Foundations of Bus. Inf. Sys., Bogazici University, Istanbul, Turkey (Sole Instructor, Spring'21)
- IE 404 - Social Network Analysis, Abdullah Gul University, Kayseri, Turkey (Sole Instructor, Fall'19)
I designed and developed the course and had it approved by the University as an elective course.

Teaching Assistant

- MIS 542 - Data Mining Concepts and Techniques, Bogazici University, Istanbul, Turkey (Fall'17, '18, '20)
- MIS 331 - Data Mining, Bogazici University, Istanbul, Turkey (Fall'18)
- BIS 541 - Data Mining and Knowledge Acquisition, Bogazici University, Istanbul, Turkey (Spring'18, '19)
- MIS 336 - Business Application Development, Bogazici 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 Turk Bank, Kocaeli, Turkey (2019)

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 (Google Ads) Challenge Finalist
	Among the top 5 teams in MEA and top 20 teams worldwide in both 2013 and 2014 challenges.

ACADEMIC SERVICE

- **Reviewer:** Information Sciences, Journal of Simulation, PLOS ONE, FGCS, IJISPM, EJISDC.
- **Workshop Organization Committee Member:** CCS 2020 Warm-Up, Winter Workshop on Complex Systems 2022.
- **Society Member:** Chair of the Advisory Board of Young Researchers of CSS (2021-2022), Network Science Society (2020 - *present*), Complex Systems Society (2019 - *present*), Founding Member of MyData Global (2018).
- **Grant Review Committee Member:** NetSci2020 Registration Support, yrCSS Bridge Grants, yrCSS Scholarships for Events on Complex Systems.

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, Jun 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: Comb. Opt. 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, Dec 2020.
 - International Conference on Complex Networks, Online, Jun 2021.
 - Networks 2021: A Joint Sunbelt and NetSci Conference, Online, Jul 2021.
- Hyperbolic Representation Learning. Official NeurIPS 2019 Meetup in Istanbul, inzva, Istanbul, Dec 2020.
- Telecom customer churn prediction. Business Analytics Workshop, Sabanci University, Istanbul, Apr 2019. (Poster Presentation)
- Influence Maximization in Social Networks. Business Analytics Workshop, Sabanci University, Istanbul, Oct 2017. (Poster Presentation – Best Poster Award)

Invited Talks

- Dynamic Network Representation Learning and its Applications in the World Trade Network. DECIDE Seminar, IMT Atlantique, Nov 2020.
- Social Network Analysis with R. R-Ladies Istanbul, Nov 2019.
- Influence Maximization in Social Networks. Data Science Lab, Istanbul Sehir University, Nov 2015.

PROGRAMMING AND DEVELOPMENT SKILLS

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

INDUSTRY EXPERIENCE

MAR 2020	Data Scientist at KUYEY TURK BANK, Kocaeli, Turkey
NOV 2018	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	Assist. & Assoc. Consultant at PLANIST IT SERVICES AND CONSULTING, Istanbul, Turkey
JUN 2014	I analyzed, designed, and developed data analytics tools and executive dashboards for our large corporate clients based in Turkey and abroad. Participated in analysis, design, development, training, and support activities.

REFERENCES

References from the advisors, collaborators, and employers can be made available upon request.