

# FURKAN GÜRSOY

## CONTACT INFORMATION

LOCATION: Open for relocation  
PHONE: +90 \*\*\* \*\*

EMAIL: [gursoyfurkan@gmail.com](mailto:gursoyfurkan@gmail.com)  
WEBSITE: [furkangursoy.github.io](https://furkangursoy.github.io)

## 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	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 IMT Atlantique, France 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 Czech Technical University in Prague 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. An agent-based modelling approach to brain drain. IEEE Transactions on Computational Social Systems. (to appear). <https://arxiv.org/abs/2103.03234>
- 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>
- 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>
- 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. Gunec. Influence maximization in social networks under Deterministic Linear Threshold Model. Knowledge-Based Systems. 2018. <https://doi.org/10.1016/j.knsys.2018.07.040>

### 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>

## 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, ...
- On collaboration networks of GitHub software development communities, *with* B. Cinget, A. van der Marel, M. T. Pham, G. Smith-Vidaurre, J.G. Young
- 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

- IE 404 - Social Network Analysis, Abdullah Gül University, Kayseri, Turkey (Sole Instructor, Fall'19)  
I designed and developed the course and had it approved by the University as an elective course.
- DA 516 - Social Network Analysis, Sabancı University, Istanbul, Turkey (Sole Instructor, Spring'21)

### 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 Turk Bank, Kocaeli, Turkey (2019)

## 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: 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>

## 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.

## PRESENTATIONS

### Contributed Talks

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

### Other work presented by co-authors

- Influence Maximization in Social Networks. INFORMS Annual Meeting, Seattle, Washington, Oct 2019.
- Influence Maximization in Social Networks. European Conference on Operational Research (EURO), Dublin, Ireland, Jun 2019.
- Influence Maximization in Social Networks. Cologne-Twente Workshop on Graphs and Combinatorial Optimization, Paris, Jun 2018.

## ACADEMIC SERVICE

- **Reviewer:** Information Sciences, PLOS ONE, Future Generation Computer Systems, IJISPM, 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*), 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.

## 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 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.

## 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, $\LaTeX$

## REFERENCES

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