

Şirag Erkol

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| CONTACT INFORMATION | Northwestern University Center for Science of Science and Innovation 1800 Sherman Ave, Evanston, IL 60201 | (812) 558-8938 siragerkol@gmail.com siragerkol.github.io |
| ACADEMIC POSITIONS | Northwestern University , Evanston, IL <i>Postdoctoral Researcher</i> Indiana University , Bloomington, IN <i>Research & Teaching Assistant</i> <ul style="list-style-type: none">Assisted courses: INFO-I 369 - Performance Analytics (Spring 2020, Spring 2021) Boğaziçi University , Istanbul, Turkey <i>Research & Teaching Assistant</i> <ul style="list-style-type: none">Assisted courses: IE 312 - Facilities Design and Planning (Fall 2014, Fall 2015, Fall 2016) IE 350 - Systems Science and Engineering (Spring 2015, Spring 2016) IE 484 - Simulation Gaming and Decision Experimentation (Fall 2016) IE 48F - Agent-Based Modeling and Simulation (Spring 2015, Spring 2016, Spring 2017) IE 550 - Dynamics of Socio-Economic Systems (Fall 2015)Assistant at Socio-Economic System Dynamics (SESDYN) Laboratory | July 2023 – present August 2017 – May 2023 October 2014 – August 2017 |
| EDUCATION | Indiana University , Bloomington, IN <i>Ph.D. in Informatics, Complex Networks and Systems track</i> <ul style="list-style-type: none">Advisor: <i>Assoc. Prof. Filippo Radicchi</i>Thesis: <i>Identifying Influential Spreaders in Complex Networks</i>Minor: Computer Science <i>M.S. in Informatics</i> Boğaziçi University , Istanbul, Turkey <i>M.S. in Industrial Engineering</i> <ul style="list-style-type: none">Advisor: <i>Assoc. Prof. Gönenç Yücel</i>Thesis: <i>Influence Maximization Based on Partial Network Structure Information: A Comparative Analysis on Seed Selection Heuristics</i> <i>B.S. in Industrial Engineering</i> <ul style="list-style-type: none">Graduation Project: <i>Analyzing Parking Stand Requirements for Istanbul Ataturk Airport</i> | August 2017 – May 2023 September 2014 – August 2016 September 2010 – June 2014 |
| WORK EXPERIENCE | Pacific Northwest National Laboratory , Richland, WA <i>Ph.D. Intern</i> | June 2021 – August 2021 |
| HONORS & AWARDS | IU Luddy Summer Research Award (\$4400) | 2022 |
| PUBLICATIONS | Published: Symmetry breaking in optimal transport networks S. Patwardhan, M. Barthélemy, Ş. Erkol , S. Fortunato, F. Radicchi <i>Nature Communications</i> , 15, 3758 (2024) [DOI] [arXiv] | |

Consistency pays off in science

Ş. Erkol, S. Sikdar, F. Radicchi, and S. Fortunato, *Quantitative Science Studies*, 4, 491 (2023)
[DOI] [arXiv] [GitHub] [Website]

Effective submodularity of influence maximization on temporal networks

Ş. Erkol, D. Mazzilli and F. Radicchi, *Physical Review E*, 106, 034301 (2022)
[DOI] [arXiv]

Who is the best coach of all time? A network-based assessment of the career performance of professional sports coaches

Ş. Erkol and F. Radicchi, *Journal of Complex Networks*, 9, cnab012 (2021)
[DOI] [arXiv] [Website]

Influence maximization on temporal networks

Ş. Erkol, D. Mazzilli and F. Radicchi, *Physical Review E*, 102, 042307 (2020)
[DOI] [arXiv]

Systematic comparison between methods for the detection of influential spreaders in complex networks

Ş. Erkol, C. Castellano and F. Radicchi, *Scientific Reports*, 9, 15095 (2019)
[DOI] [arXiv]

Influence maximization in noisy networks

Ş. Erkol, A. Faqeeh and F. Radicchi, *EPL*, 123, 58007 (2018)
[DOI] [arXiv]

Influence Maximization Based on Partial Network Structure Information: A Comparative Analysis on Seed Selection Heuristics

Ş. Erkol and G. Yücel, *International Journal of Modern Physics C*, 28, 1750122 (2017)
[DOI]

PRESENTATIONS

Talks:

Effective submodularity of influence maximization on temporal networks, **July 2022**
NetSci 2022, Online

Influence maximization on temporal networks, Networks2021, Online **July 2021**

Influence maximization on temporal networks, University of Limerick, **March 2021**
Ireland, Online

Posters:

Consistency pays off in science, ICSSI 2023, Evanston, IL, USA **June 2023**

Systematic comparison between methods for the detection of influential spreaders in complex networks, NetSci 2020, Online **September 2020**

Influence maximization in noisy networks, NetSci 2019, Burlington, VT, USA **May 2019**

COMMUNITY SERVICE

Journal Reviewer: Applied Mathematics and Computation; Chaos, Solitons & Fractals; EPJ Data Science; Expert Systems with Applications; IEEE Transactions on Network Science and Engineering; Journal of Computational Science; Pattern Recognition; Physical Review E; Royal Society Open Science

Conference Reviewer: ISSI 2023; ICSSI 2024

Journal Subreviewer: PLoS One

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| COMPUTER SKILLS | Frequent user of Python, L ^A T _E X Experiece in Django, NetLogo, HTML, CSS Familiar with MySQL, C, R, Git, Stella |
| LANGUAGES | English (fluent), Turkish (native), Armenian (native), French (beginner), Spanish (beginner) |

Last updated: April 2025