Irem TOPAL
Physics Engineer | Postdoctoral Researcher

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📍 Padova, Italy   ⌗ github.com/lffrrnt

% lffrrnt.github.io

🎓 EDUCATION

2023	PhD in Computational Applied Science and Engineering, Kadir Has University, Istanbul, Turkey.
2019	PhD in Physics Engineering, Istanbul Technical University, *Courses Transferred*.
2017	MSc in Physics Engineering, Istanbul Technical University.
2014	BSc in Physics Engineering, Istanbul Technical University.

💼 RESEARCH AND EXPERIENCE

Present — **June 2023**	Postdoctoral Researcher, UNIVERSITY OF PADOVA, Padova, Italy. Department of Biomedical Sciences
May 2023 — **October 2019**	Research Assistant, KADIR HAS UNIVERSITY, Istanbul, Turkey. PhD funded by TUBITAK
Sept 2021 — **July 2021**	Visiting PhD Student, INTERNATIONAL CENTER FOR THEORETICAL PHYSICS, Trieste, Italy. Quantitative Life Sciences Section
October 2019 — **November 2018**	Physics Tutor, BAHCESEHIR, Istanbul, Turkey. Worked one-on-one with undergraduate engineering students to prepare them for the exams in Physics I and II.
October 2019 — **April 2018**	Data Scientist, MILETOS INC., Istanbul, Turkey.

📖 PUBLICATIONS

2024	Topal, I. *et al.*, "*Machine learning for cerebral blood vessels' malformations*", (under review).
2023	Topal, I., Eroglu, D., "Reconstructing Network Dynamics of Coupled Discrete Chaotic Units from Data", Physical Review Letters **130**, 117401, (2023).
2019	Topal, I., Servantie, J., "Molecular Dynamics Study of the Thermal Conductivity in Nanofluids", Chemical Physics **516**, 147-151, (2019).

⬨ Talks and Posters

2024	*Scaling and criticality in brain-wide neural activity of larval zebrafish* (Poster), Italian Network for Computational Neuroscience, Istituto Superiore di Sanità, Roma, Italy.
2022	*Reconstructing network dynamics of weakly coupled chaotic units from data* (Talk), Inverse Network Dynamics, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany.
2021	*Network Reconstruction from Data* (Poster), The EPS conference on Statistical Physics of Complex Systems, ICTP, Trieste.
2021	*Reconstructing Network Dynamics of Weakly Coupled Chaotic Units* (Online), SIAM Conference on Applications of Dynamical Systems.
2020	*Sensing Network Dynamics of Weakly Coupled Chaotic Units* (Online), Dynamics Days Digital 2020.
2018	*Prediction of DNA Binding Sites for a Transcription Factor* (Poster), Machine Learning Summer School at Bosphorus (BYOYO), Istanbul.
2018	*Molecular Dynamics Study of the Thermal Conductivity in Nanofluids* (Talk), The annual Statistical Physics Days, İzmir.

⬓ Skills

Software	VMD, Inkscape, LaTex, Grace, Gephi
Development tools	git
Operating systems	Ubuntu, Mac OS X, Windows

</> Programming Languages

Python ● ● ● ● ●
Fortran ● ● ● ● ○
MATLAB ● ● ● ● ○

🅰 Languages

> Turkish (Native)
> English

👥 Outreach and Volunteering

2022	*Caliban and the Witch : Professions Lost by Women* (Podcast), Fiskos Masası, Kadir Has University, Istanbul.
2021	*Introduction to Network Sciences* (Online Lecture), 19th Physics Days, Istanbul.
2020	*Synchronization of Chaotic Systems* (Online Lecture), 17th Physics Days, Istanbul.
2013	İstanbul Technical University, Students' Representative Council, Undergraduate Student Representative of Physics Engineering

❝ References

Deniz Eroğlu	Édgar Roldán	Alkan Kabakçıoğlu
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