

Alireza Hashemi

Academic & Professional CV

✉ Email and Skype: alireza.hashemi13@outlook.com

Education

- **Sharif University of Technology**, M.Sc., Physics (2019-present)
Agent-based modeling of social distancing
Chaotic dynamics of topological defects
- GPA: 2.87 (Iran grading system: 14.51/20) (72.55%)
- **University of Zanjan**, B.Sc., Physics (2015-2019)
Computational simulation of heat transfer in nano-structures
Fractal quantum potentials
- GPA: 3.70 - Top rank - (Iran grading system: 17.43/20) (87.15%)

Work Experience

- **Data Scientist**, blubank (May 2020-Present)
Fraud detection, customer behaviour analysis, image processing, social network analysis
 - **Machine Learning Intern**, Rahnema College (2019)
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Publications

- Social distancing in pedestrian dynamics
Physical Review E - **Alireza Hashemi**, Sina Sajjadi, Fakhteh Ghanbarnejad - 2021
- Chaotic dynamics of active topological defects
Soft Materials - **Alireza Hashemi**, Reza Ejtehad - 2021
- Analysis of the ground-state energy eigenvalues of fractal quantum potentials
Physica Scripta - **Alireza Hashemi**, Amir Hossein Darooneh - 2019
- Many-body effects on the radiative heat transfer in fractal nanostructures
IJAA - Moladad Nikbakht, Servieh Ahmadian, **Alireza Hashemi** - 2017

Conferences

- DBS 2020 - Social distancing in pedestrian dynamics (Presentation)
- NetSci 2020 - COVID-19 in Iran (Poster)
- CCS 2020 - Effectiveness of social distancing through the lens of ABM

Skills & Experience

- C++, Python, R, Matlab
- Social media data mining, NetworkX, graph-tool
- Keras and PyTorch, SciPy, Sklearn, Pandas, Parallel computing (OpenMP)
- SQL/NoSQL databases, Neo4j, Data visualization tools, \LaTeX


Other

- TA for Physics 1, Analytical Mechanics 1&2 (Sep 2017), Electromagnetism (Sep 2018), Nonlinear Dynamics & Chaos (Sep 2020)
 - Translation of the book "Dark Matter & Dark Energy" by Brian Clegg to Farsi
 - 23rd & 24th School on Physics, IASBS
 - Tehran School on Complex Networks (TACN2018), Shahid Beheshti University
 - NTD Hackathon runner up team (Covered in NPR.org [here](#))
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References

Prof. Amir Hossein Darooneh, Dept. of Applied Math., University of Waterloo
Prof. Mohammad Reza Ejtehad, Dept. of Physics, Sharif University of Technology
Prof. Moladad Nikbakht, Dept. of Physics, University of Zanjan

Links

Google Scholar,  **Researchgate**,  **LinkedIn**,  **Homepage**