

Alireza Hashemi

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EDUCATION

The City University of New York (CUNY), Graduate Center,

Physics PhD Student

Sharif University of Technology,

Physics Master of Science

University of Zanjan,

Physics Bachelor of Science

New York, USA

Aug. 2022 – Present

Tehran, Iran

Sep. 2019 – Jan. 2022

Zanjan, Iran

Sep. 2015 – Jun. 2019

WORK EXPERIENCE

blu Bank, *Data Scientist*, Tehran, Iran

May. 2020 – Aug. 2022

- Training and stacking of several CNN architectures for face vs. ID card verification using transfer learning, face liveness detection on streaming video using commands
- Fraud detection on user debit card transactional data using isolation forests, autoencoders, and feature engineering
- Knowledge graph design and building, designed and developed a Neo4j database from several data sources to identify money-laundering networks, community detection, and recommender system.
- Marketing analysis & A/B testing, high level presentations for managers and strategic planning
- Data engineering pipelines and automation DAGs using Apache Airflow and ETL with Python. working with different databases: Oracle, PostgreSQL, MongoDB, MySQL, Clickhouse

Rahnema College, *Machine Learning Course Mentor*, Tehran, Iran

Mar. 2021 – Jun. 2021

- Mentored a small group of interns in machine learning for three months as a part of volunteer work.

Rahnema College, *Machine Learning Intern*, Tehran, Iran

Jan. 2019 – Mar. 2020

- 3-month training program in basics of machine learning. Final project: A recommender system for a music streaming service

PUBLICATIONS

A. Hashemi, S.Sajjadi, F. Ghanbarnejad, [Social distancing in pedestrian dynamics and its effect of disease spreading](#). *Physical Review E* (2021).

A. Hashemi, M. Ejtehadi, [Chaotic dynamics of active topological defects](#). *Soft Materials* (2021).

A. Hashemi, A. Darooneh, [Analysis of the ground-state energy eigenvalues of fractal quantum potentials](#). *Physica Scripta* (2019).

M. Nikbakht, S. Ahmadian, A. Hashemi, [Many-body effects on the radiative heat transfer in fractal nanostructures](#). *IJAA* (2017).

Translation of the book “Dark Matter & Dark Energy” by Brian Clegg to Farsi (2020)

CONFERENCES

[Social distancing in pedestrian dynamics](#). *Dynamical Biological Systems* (2020), [COVID-19 in Iran](#). *NetSci* (2020)

[Effectiveness of social distancing through the lens of ABM](#). *Complex Systems Society* (2020)

RELEVANT SKILLS

Python: NumPy, Pandas, Scikit-Learn, NetworkX, Keras, TensorFlow, PyTorch, graph-tool, **C++:** LAPACK, Computational Physics, **Matlab, R, Basic Linux, SQL, NoSQL Databases, CUDA, cuDNN, Machine Learning:** Supervised/Unsupervised/Semi-Supervised, **Deep Learning:** Image processing with CNN, Transfer learning, Graph neural networks, Autoencoders, **Timeseries:** Causal impact analysis, timeseries prediction algorithms, **Anomaly Detection, Graph Databases:** Neo4j, **Teamwork Tools:** Jira, Git, Confluence, **Data Reporting:** Metabase, Superset, Power BI, **Data Engineering:** Apache Airflow, Python ETL

OTHER

[NTD Hackathon](#) runner-up team (covered in [NPR.org](#)), TA for 5 courses during B.Sc. and M.Sc. studies, 23rd & 24th school on physics at [IASBS](#), Tehran School on Complex Networks ([TACN2018](#)) participant

LINKS

[Google Scholar](#)

[Researchgate](#)

[Linkedin](#)

[Github](#)