

## 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

- Fraud detection on user debit card transactional data using isolation forests, autoencoders, and feature engineering.
- Training and stacking of several CNN architectures for face vs. ID card verification using transfer learning, face liveness detection on streaming video.
- Knowledge graph design and building, designed and developed a Neo4j database from several data sources to identify money-laundering networks, community detection, fraud 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 (and PyTorch geometric), graph-tool,

**C++:** LAPACK, Computational Physics, **Matlab, R, Basic Linux, SQL & NoSQL Databases, CUDA, Machine**

**Learning:** Supervised/Unsupervised/Semi-Supervised algorithms with standard libraries, **Deep Learning:** Image processing with CNN, Transfer learning, Graph neural networks, Autoencoders, **Timeseries:** Causal impact analysis, timeseries prediction algorithms for strategic planning, **Anomaly Detection, Graph Databases:** Neo4j, **Teamwork**

**Tools:** Jira, Git, Confluence, **Data Reporting:** Metabase, Superset, **Data Engineering:** Apache Airflow, Python ETL

## OTHER

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

## LINKS

[Google Scholar](#)

[Researchgate](#)

[Linkedin](#)

[Github](#)