

Arman Behnam

Research assistant at Illinois Institute of Technology, Department of Computer Science

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EDUCATION

Illinois Institute of Technology

Chicago, IL, USA

Computer Science Ph.D. student; College of Computing, Department of Computer Science

January 2023 – Present

Research subject: Graph Neural Networks explanation by causal inference

Advisor: Binghui Wang

Relevant coursework: Computer Organization and Assembly Language Programming, Systems Programming, Science of Programming, Software Systems Architectures, and Probabilistic Graphical Models

Iran University of Science and Technology

Tehran, Iran

M.Sc. in Industrial Engineering; **GPA: 3.44**

September 2018 – March 2022

Dissertation title: “Railway data mining using deep learning with IoT approach”

University of Tehran

Tehran, Iran

B.Sc. in Industrial Engineering; **GPA: 3.17**

September 2014 – July 2018

Final project: “Integrating modern tools for long-term production planning”

PUBLICATIONS

Artificial intelligence-enabled Internet of Things technologies in modern energy grids

A book chapter from *IoT Enabled Multi-Energy Systems*, Academic Press, January 2023

- New AI-based IoT frameworks concentrating on architecture, and challenges of energy internet.

Data science leverage and big data analysis for Internet of Things energy systems

A book chapter from *IoT Enabled Multi-Energy Systems*, Academic Press, January 2023

- Smart grid intelligence protocols with attention to data-driven decision-making, and real-time data collection.

A data analytics approach for COVID-19 spread and end prediction (with a case study in Iran)

Journal of Modeling Earth Systems and Environment, January 2021

- COVID-19 confirmed, and recovered cases trend prediction in short-time, and long-term scenarios by time series methods fine-tuned by Gaussian functions for a case study of Iran

Meta-Health Stack: A new approach for breast cancer prediction

Healthcare Analytics, November 2022

- An ensemble-based framework for predicting breast cancer with high performance

A Study on IOT Applications and Technologies in Logistics

A book chapter from *Logistics and Supply Chain Management*, Healthcare Analytics, December 2020

- Analysis to determine the applications of IOT in logistics such as WSN, RFID, and GIS.

A comparison between different classification algorithms for predicting metastasis in breast cancer

IIIEC 2021, March 2021

- Comparison of different fine-tuned ML methods for cancer metastasis cases prediction,

RESEARCH EXPERIENCE

Graph Neural Network Causal Explanation via Neural Causal Models

Ph.D. Research

Submitted to *CVPR 2024*, January 2023 – November 2023

- A GNN causal explainer by building causal structure and the corresponding neural causal model for a graph. It outperforms the existing GNN explainers in exactly finding the ground-truth explanations.

Weight-Opt; A novel feature engineering-based framework for optimization

M.Sc. Research

Under review at *Expert systems with applications*

- An iterative optimization framework outperformed all ensemble ML methods by 20%

WORK EXPERIENCE

Tanzim-Yar (Reg-Tech) Startup Studio

Tehran, Iran

Data Analyst

April 2021– December 2022, Full-time

- Developed complete digital identification process product as a third-party product for Fin-Tech regulation

Mobarakeh Steel Company

Esfahan, Iran

AI Engineer

November 2020– November 2021, Part-time

- Developed deep learning-based bearing fault detection software for real-time diagnosis system from raw data.

Jahad-Daneshgahi

Tehran, Iran

Data Science Lecturer

November 2018– November 2019, Part-time

- Teaching data science (200 hours): Machine Learning, and Data mining by Python, and R programming languages

ACADEMIC EXPERIENCE

Grading programming assignments, and the final project

Teaching Assistant

"Data privacy and security" CS528, and "Multiple Variables Statistical Analysis" IE210 course

American Journal of Lifestyle Medicine, SAGE Journals

Editorial Board

The Journal of Primary Prevention, Journal of General Internal Medicine

Peer Reviewer

SKILLS

Languages: C/C++, Java, Python, SQL, MATLAB, R, Assembly programming language, and VBA

Technologies: LLMs, MySQL, Git, Docker, Linux, OpenCV, Scikit-Learn, PyTorch, Keras, TensorFlow, HTML/CSS

Field of study: Neural networks, Causality, Machine Learning

PROJECTS

Pytorch Tutorial | [GitHub](#)

Step-by-step tutorial for training NNs and analysis via PyTorch

Stock Prediction | [GitHub](#) US stock prices prediction via LSTM, GRU, ensemble, CNN, and attention models

Time Series Models | [GitHub](#)

Implementing ML-based, and NN-based methods for climate changes

CERTIFICATES

Reinforcement Learning, by University of Alberta (80 hours)

November 2021

Natural Language Processing, by DeepLearning.AI (120 hours)

August 2021

Excel Skills for Data Analytics, by Macquarie University (40 hours)

March 2021

Deep Learning, by DeepLearning.AI (120 hours)

November 2020

Data science and applied statistics, Supervisor: Dr. Yaser Zerehsaz (120 hours)

Spring 2020