Arman Behnam

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

+1 312 539 8781 | abehnam@hawk.iit.edu | LinkedIn | GitHub | Website | Chicago, IL, USA

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: Causal Representation Learning for Out of Distribution Data; ***GPA: 3.00*** — *Advisor: Binghui Wang*

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"

Work Experience

Mayo Clinic — Rochester, MN, USA
AI Research Scientist Internship (Department of Artificial Intelligence (AI&I)) — *May 2024 – August 2024, Full-time*

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

Skills

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

Technologies: LLM APIs, Git, Docker, Linux, OpenCV, Scikit-Learn, PyTorch, Pytest, Keras, TensorFlow, PDB, HTML/CSS, MySQL, ML APIs and SDKs

Field of study: Neural networks, Causality, Machine Learning

Projects

Threads and User Programs in OS | *GitHub* — Bochs and QEMU within the Docker environment image

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

Honors and Awards

ECCV24 Paper Lightning Talk and Poster Presentation 2024 NSF TRIPODS Workshop
Toyota Technological Institute at Chicago *December 7th, 2024*

ECCV24 Paper Lightning Talk and Poster Presentation 9th Midwest Security Workshop
Purdue University *November 16th, 2024*

ECCV24 Poster Presentation NSF Site Visit (IDEAL)
Northwestern University *September 18th, 2024*

Ph.D.'s First Year Talk NSF Site Visit (IDEAL)
Northwestern University *October 12th, 2023*

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

Publications

Causal Explanation from Mild Cognitive Impairment Progression Using GNNs Video, Code
International Conference on Bioinformatics and Biomedicine, December 2024 (Internship Research)
- Explore potential causal explanation of MCI progression by temporal patient data, including chronic diseases, biomarkers, and genetic information, into a graph structure to capture causal effects within variables.

Graph Neural Network Causal Explanation via Neural Causal Models Video, Code, Poster
18th European Conference on Computer Vision, July 2024 (My first year's Ph.D. Research)
- 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.

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 (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

Research Experience

Invariance in Causal Representation Learning for Domain Generalizations Ph.D. Research
In progress, January 2024 – Now

Academic Experience

Grading programming assignments, and the final project Teaching Assistant
"Data privacy and security" CS528, and "Introduction to Data Structures by Java"CS401

American Journal of Lifestyle Medicine, SAGE Journals Editorial Board

The Journal of Primary Prevention, Journal of General Internal Medicine Peer Reviewer