Ali Izadi

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Iran, Tehran

RESEARCH INTERESTS

- Causal discovery and inference
- Optimization
- Generative modeling

EDUCATION

University of Tehran
Master of Science, Artificial Intelligence: 2020 - 2022

- GPA: 17.69/20 - 3.65/4 Total: 26 credits
- GPA: 18.95/20 - 4/4 Last 3 semesters: 20 credits

Amirkabir University of Technology, Tehran Polytechnic
Bachelor of Science, Computer Engineering - Software: 2015, 2020

- GPA: 17.3/20 - 3.65/4 Total: 140 credits

RESEARCH EXPERIENCE

Research Assistant at Computational Audio-Vision Lab
School of Electrical and Computer Engineering, University of Tehran
Full-time Jun 2021 - Present

- Researching on causal discovery algorithms using continuous optimization methods under supervision of Dr. Reshad Hosseini and Dr. Mostafa Tavassolipour; Trying to introduce a new optimization method.

Bachelor Thesis: Person-Recognition Spring 2020

- Designed and implemented Person Recognition System as Person Attendance Tracker using face recognition methods to track and record person's identities in the videos captured from security cameras. Achieved more than 90% tracking and recognition accuracy in non-occluded and more than 80% in occluded areas. (Link)

PUBLICATIONS

- Ali Izadi, **Systematic Review of Causal Discovery using continuous optimization. Reformulating causal discovery as a graph matching problem.**, 2022, (Link)
  Conducted as a systematic review for my seminar course in artificial intelligence and also proposed a new reformulation of linear causal discovery.

- Ali Izadi, **Causal Normalizing Flow**, Blog Post, 2022, (Link)
  Proposed and implemented experiments on how normalizing flow can help causal discovery.

TEACHING, TALKS

- **Data Analytics Bootcamp: Mentor** July 2022
  University of Tehran
  Collaborated with a group of mentors educating around 80 students for more than 10 data science workshops. (GitHub-Link)

- **Probabilistic Programming, Modeling the world through Uncertainty: Workshop Instructor**
  Amirkabir Artificial Intelligence Student Summit. (Slides/Codes) (Post) August 2021
  Instructed more than 50 students in a 2 hours workshop.

- **Machine Learning Interpretability: Presenter**
  Students' Scientific Chapter of CEIT of Amirkabir University of Technology. (Slides)
  November 2019

Probability and Statistics: Teaching Assistant
Amirkabir University of Technology Spring 2018

HONORS and AWARDS

- Ranked 1238 in the National University Entrance Exam among 160,000 students.
- Ranked 41 in the Master of Science University Entrance Exam among 6700 students.

WORK EXPERIENCE

Data Scientist : ParticleB — August 2020 - May 2021

- Conducted research on Financial machine learning including algorithmic trading parameter optimization in crypto-currency markets, under super vision of Behnam Sabeti. Accomplished full automation and increased performance by more than 20%.
- Implemented the algorithmic trading evaluation system that leads a 50% reduction on running time and development cost.

Data Developer: Miras Technologies — July 2018 - May 2020

- Researched on different algorithmic trading problems including portfolio management, time series analysis, and parameter optimization using python.
- Designed and implemented the web crawling system and automatic web page content extraction using Scala. Attained more than 90% accuracy.
- Developed software based on functional design and big data technologies including Apache Kafka and Redis using Scala and Akka stream.

Web Developer Intern : Institute of Applied Intelligent Systems of University of Tehran — August 2017 - October 2017

- Designed and developed the web applications using Java and Angular.

RELEVANT COURSES PROJECTS

Graduate:

- **Advances Optimization(18.5/20)**: projects including augmented lagrangian, interior point, descent Dai-Liao conjugate gradient, and other importants optimization methods. (Link)
- **Probabilistic Graphical Models(18.7/20)**: Implemented probabilistic matrix factorization for recommender systems based on gibbs sampling and variational mean field. (Link)
- **Neural Networks** (20/20): projects including Autoencoder, AC GAN, Deep Convolutional GAN, WGAN, Transfer Learning, Semantic Segmentation, and Object Detection, implemented with pytorch and keras. (Link)
- **Data Analysis (20/20)** (Link) • **Statistical Inference (17.6/20)** (Link)

Undergraduate: • Stochastic Processes (20/20) • Engineering statistics (20/20) • Foundations of Data Mining (19.5/20) • Artificial Intelligence and Expert Systems(17.25/20)

- Principles of Computational Intelligence(18/20): Implemented the RBF neural network trained using evolutionary strategy. (Link)

TECHNICAL SKILLS

Languages: Python, Scala, Typescript
Frameworks and Tools: Expert at Pytorch, Scikit-Learn, Pandas, Numpy, Matplotlib
Development: Linux, Bash, Kafka, Docker, MongoDb, PostgreSQL, Angular

LANGUAGE SKILLS

English: Fluent **Persian**: Native