

Mohammad Aminazadeh

B.Sc. in Computer Engineering

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Education

University of Isfahan

B.Sc. in Computer Engineering (Information Technology)

Isfahan, Iran

Sept 2016 - Sept 2021

- **GPA:** 3.84 (17.80 out of 20) for the last three years
- **Thesis Title:** Urban Segmentation and Analysis: Traffic Time Series Clustering and Weather Impact Analysis on Traffic Flows
- **Supervisor:** Dr. Fakhroddin Noorbehbahani
- **Relevant Coursework:** Final Thesis (19/20) - Advanced Programming (20/20) - Data Structures (19.80/20) - Algorithms Design (17.51/20) - Database Lab (20/20) - MATLAB Workshop (20/20) - Linear Algebra for ML (online) - Introduction to Biological Sciences (17.25/20)

Research Interests

Data Science - Data/Graph Mining - Deep Learning - Informatics - Human-Centered AI

Honors

- Ranked among the top B.Sc. students of computer engineering major (Faculty of Computer Engineering, University of Isfahan, Isfahan, Iran).
- Ranked among the top 10% of mathematics candidates in the National University Entrance Exam, achieving a position of 1,760 out of 165,000.
- Ranked among the top students of Mathematics in high school of "Isfahan University of Technology".

Publications (74 Citations)

JOURNAL ARTICLES

A systematic review of research on cheating in online exams from 2010 to 2021
Fakhroddin Noorbehbahani, Azadeh Mohammadi, Mohammad Aminazadeh
Journal of Education and Information Technologies (Mar. 2022). 2022

CONFERENCE PROCEEDINGS

City Intersection Clustering and Analysis Based on Traffic Time Series
Mohammad Aminazadeh, Fakhroddin Noorbehbahani
12th IEEE International Conference on Computer and Knowledge Engineering (ICCKE), 2022, Mashhad, Iran

Business Models for the Internet of Things: An In-Depth Categorization, Design and Innovation Tools, Challenges, and Solutions (Accepted)
Fakhroddin Noorbehbahani, Mohammad Aminazadeh, Hooman Hoghooghi Esfahani, Soroush Bajoghli
7th IEEE International Conference on Internet of Things and Applications, 2021, Isfahan, Iran

Projects

Urban Segmentation and Analysis: Traffic Time Series Clustering and Weather Impact Analysis on Traffic Flows

Isfahan, Iran

University of Isfahan (B.Sc. Thesis)

Jan 2021 - Sep 2021

- **Supervisor:** Dr. Fakhroddin Noorbehbahani
- **Technical Fields Involved:** Big Data Mining and Analytics - Time Series Clustering and Visualization - Pattern Recognition - Correlation Analysis
- Ensuring Robustness: Pre-processing 13 million records of text-based data including cleaning, aggregation, missing value estimation and noise mitigation.
- Clustering traffic time series using Euclidean K-Means to group intersection data based on similar traffic behavior.
- Investigating daily and seasonal traffic flow patterns through time series visualization.
- Correlation analysis between weather extreme conditions (Max/Min temperatures - Heavy Rain/Snow/Wind) and traffic flows by integrating weather and traffic data.

Time Series Prediction with Dynamic Time Warping Clustering

Isfahan, Iran

University of Isfahan

Feb 2022 - May 2022

- **Supervisor:** Dr. Fakhroddin Noorbehbahani
- **Technical Fields Involved:** Time Series Prediction - Time Series Clustering
- Predicting traffic time series by DTW clustering.
- Leading time series within the same DTW clusters are predictors of lagging time series.

Traffic Network Prediction and Analysis with Graph Convolutional Networks

Isfahan, Iran

Ongoing Personal Project

Jun 2023 - Present

- **Technical Fields Involved:** Graph Mining - Network Analysis - Traffic Prediction - Anomaly/Congestion Detection
- Graph representation of traffic network.
- Traffic prediction regarding spatial information between connected nodes (Intersections).
- Anomaly and congestion detection within different routes (Edge-level).

Financial Data Extraction and Aggregation: Web Scraping using Selenium

Isfahan, Iran

Personal Project

Jun 2022 - Aug 2022

- **Technical Fields Involved:** Data Extraction - Feature Engineering - Data Aggregation and Cleaning - Statistical Analysis
- Extracting complete financial data of 26,600 public companies from web using Selenium, each comprising 356 distinct features.
- Performing feature engineering and statistical analysis on data.

Course Projects

Isfahan, Iran

University of Isfahan

- Autonomous Maze Navigation System: Implementing an Agent for Solving Maze Puzzles (Artificial Intelligence Project)
- Implementing a Rule-based Agent to Survive in "Wumpus World" Game (Data Structures Project)
- Genetic Algorithm Implementation using MATLAB (MATLAB Workshop Project)
- Implementation of Fundamental Data Structures from Scratch (Advanced Programming Project)

Research Experiences

Research Assistant

Isfahan, Iran

University of Isfahan

Feb 2021 - Present

- **Supervisor:** Dr. Fakhroddin Noorbehbahani
- Department of Computer Engineering

Skills

Programming Languages Python, R, SQL

Libraries PyTorch, Scikit-learn, Pandas, NumPy, Selenium, TS-learn

Data Analytic Tools Tableau, Excel

Soft Skills Critical Thinking, Creative, Fast Learner, Management and Teamwork

Language Proficiency

English IELTS Band Score 7.5 (Listening 8.5 - Reading 7.5 - Writing 7 - Speaking 6.5)

Persian Native proficiency

References

- **Referee 1:** Dr. Fakhroddin Noorbehbahani
Affiliation: Assistant Professor at the University of Isfahan
Email: noorbehbahani@eng.ui.ac.ir
- **Referee 2:** Dr. Azadeh Mohammadi
Affiliation: Assistant Professor at the University of Isfahan
Email: az.mohammadi@eng.ui.ac.ir
Gmail: azade.mohammadi@gmail.com
- **Referee 3:** Dr. Kamal Jamshidi
Affiliation: Professor at the University of Isfahan
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