Aref Azizian

Tehran, Iran | storm.aref@gmail.com | +989120332353 | stormaref.github.io | LinkedIn
stormaref | Scholar

Research Interests

Noisy Label, Contrastive Learning, Regularization, Model Probability Calibration, Anomaly Detection

Education

MS **Amirkabir University**, Computer Science — 2023 – Present
- GPA: 19.71/20
- **Ranked top 1** student

BS **Amirkabir University**, Computer Science — 2018 – 2023

Publications

Enhanced Multi-Modal Gas Leakage Detection with NSMOTE: A Novel Over-sampling Approach. In *8th International Conference on Smart Cities, Internet of Things and Applications (SCIoT)*, pp. 94-99. IEEE. 2024, Mashhad, Iran. — 2024

Aref Azizian, Behnam Yousefimehr, Mehdi Ghatee

10.1109/SCIoT62588.2024.10570108

Preventing Overfitting on Noisy Labels Through Adaptive Checkpointing. In *10th International Conference on Signal Processing and Intelligent Systems (ICSPIS)*, pp. 94-99. IEEE. 2024, Shahrood, Iran. — 2024

Aref Azizian, Rouhollah Ahmadian, Mehdi Ghatee, Mostafa Shamsi

10.1109/SCIoT62588.2024.10570108

Research Experience

NORC Lab at Amirkabir University — Website
- Collaborated with two Ph.D. candidates on impactful research in machine learning, focusing on anomaly detection and noisy labels, which resulted in the publication of two **IEEE** conference papers.
- Contributed to writing research papers, reports, and presentations, advancing the lab's focus on practical machine learning applications.
- Contributed to various projects led by the lab director Professor Mehdi Ghatee, collaborating on research initiatives that advanced the lab's focus on machine learning and data science.

Teaching Experience

Deep Learning Teaching Assistant — Spring 2025
- Course led by Professor Mostafa Shamsi, Dept. of Math & CS.

Machine Learning Teaching Assistant — Fall 2024
- Course led by Professor Fatemeh Shakeri, Dept. of Math & CS.

Advanced Programming Teaching Assistant — Fall 2022
- Course led by Professor Mohammad Mahdi Bejani, Dept. of Math & CS.

Projects

Recommendation System for Large-Scale Datasets GitHub

- Developed a user-to-user collaborative filtering recommendation system using the MovieLens 20M dataset, which required sparse matrix representation to reduce memory usage and optimize computation.
- Scraped Instagram for user interaction data, collecting metrics for enhanced personalized recommendations.

Comparative Analysis of GNNs and Classic Machine Learning Models Kaggle

- Compared Graph Neural Networks (GCN, GraphSAGE, GAT) with traditional models like Random Forest and MLP, analyzing accuracy and scalability on superhero datasets.
- Constructed graph adjacency matrices using multiple techniques (e.g., KNN and real data relationships) and implemented GNNs with PyTorch Geometric for node classification.

Implementation and Enhancement of Spam Detection on Twitter GitHub

- Implemented a neural network-based spam detection model following the methodology proposed in a paper, using their self-collected dataset, focusing on traditional and context-specific spam on Twitter.
- Improved the model's performance by optimizing key components, surpassing the original results in several areas.

Honors And Awards

Top Rank in M.Sc. Computer Science 2024

- Recognized as the top-ranked student in the Amirkabir University Master's Program.

Iran Mathematics Olympiad 2016

- Qualified for the higher rounds.

Work Experience

Novinmana, Senior .NET Developer — Tehran, Iran, Jan 2024 - Present

- Developed a Content Management System (CMS) and a funding application, improving business workflows and user experience.

Exon IT, Senior .NET Developer — Tehran, Iran, Nov 2022 - Jan 2024

- Designed and implemented a microservice architecture using BDD (Behavior Driven Development).

Dotin, DevSecOps Engineer — Tehran, Iran, Apr 2022 - Sep 2022

- Applied secure coding principles and developed a Static Application Security Testing (SAST) pipeline, improving code security and compliance.

DPE, .NET Developer — Tehran, Iran, Jan 2020 - Apr 2022

- Designed and implemented a microservices architecture for a novel Uber-like application, enabling scalable and maintainable software solutions.

Languages

English: Advanced - IELTS score of 8

Persian: Native