Mohammadmahdi Zafarmand

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Education

University of Alberta — Edmonton, AB
M.Sc. in Computer Science (GPA 3.6/4) — *Sep. 2018 – Sep. 2020*

University of Tehran — Tehran, Iran
B.Sc. in Electrical Engineering (last year GPA 3.7/4) — *Sep. 2012 – Jul. 2017*

Experience

Graduate Research Assistant — May 2019 – Present
University of Alberta, AMII (Alberta Machine Intelligence Institute) — *Edmonton, AB*

- Developing Meerkat, a data analytic tool for analyzing changes over time in a network of entities.
- Working on novel approaches to detect communities in deterministic and uncertain social networks.
- Published "Addressing the Resolution Limit and Field of View Limit in Community Mining" [Publication Link]

Graduate Teaching Assistant — Sep. 2018 – Apr. 2020
University of Alberta — *Edmonton, AB*

- Introduction to Foundations of Computation I & II (CMPUT 174 & 175)
- Responsibilities included attending labs and helping students with assignments, designing assignments, and marking projects and exams.

Selected Projects

Fast Local Community Discovery: Relying on the Strength of Links — Fall 2020

- NetworkX implementation for novel community discovery algorithms LSWL and LSWL+. [Github Link]

Fast Apriori Implementation for Association Rule Mining | *C++* — Data Mining: Winter 2019

- The most prominent practical application of Apriori algorithm is to recommend products based on the products already present in the user's cart. This is a fast implementation usable for very large databases. [Github Link]

Analyzing Q-sigma over the Grid World Problem | *Python, Numpy* — Reinforcement Learning: Winter 2019

- Analyzed and evaluated Q(σ), a unifying method between various tabular methods. Performed many experiments to find out how well this method performs in diverse deterministic environments. [Github Link]

Classification of Wireless Indoor Localization | *Python, Scikit-Learn, Numpy* — Machine Learning: Fall 2018

- Evaluated different traditional classification algorithms on "Wireless Indoor Localization" dataset.

Web-based Project Management Application | *C++* — Advanced Programming: Fall 2016

- Implemented a Trello-inspired kanban board containing multiple to-do lists, in which users can add/remove/move, etc. any tasks (without GUI).

Image Mosaic Maker | *C++* — Advanced Programming: Fall 2016

- The goal of the project was to convert images to mosaic style using a large set of different images.

Implementation of Super Mario Game | *C* — Introduction to Computer and Programming: Fall 2012

- Implemented the classic Nintendo game to be played in the terminal.

Skills

Languages: Python (3 years), C/C++ (3+ years), Java
Machine Learning / Deep Learning Libraries: Scikit-Learn, Numpy, Scipy, Pytorch, TensorFlow, Keras
DataBases: SQL, MySQL, Pandas
Cloud Computing Platforms: Familiar with Amazon Web Services (AWS) and Google Cloud Platform
Developer Tools: Git, Docker, Linux, Networkx, Matplotlib, VS Code, PyCharm, Jupyter Notebook, Eclipse
Personality: Quick learner and team player who can also work independently

Online Certificates

Deep Learning Specialization: [Certificate Link]
DeepLearning.AI TensorFlow Developer: [Certificate Link]
IBM AI Engineering Professional Certificate: [Certificate Link]
Applied Data Science with Python Specialization: [Certificate Link]