Siavash Barqi Janiar

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Education

York University **2021 – 2023**
Master of Applied Science in Electrical Engineering and Computer Science (GPA: A+)
Research: **transfer learning**, **unsupervised learning**, **federated learning**, **deep-reinforcement learning**.

Amirkabir University(**Tehran Polytechnic**) **2016 – 2021**
Bachelor of Science in Electrical Engineering
Focused: **statistical learning**, **deep learning**, **supervised learning**, **partially observable MDP**.

Skills

- **Python:** Tensorflow, Keras, PyTorch, Sci-kit learn, Pandas, Socket Programming, Thread Programming, aircrack-ng, Qt Design. **Seven years** of consistent experience using python for AI and machine learning for academic research and TA classes.
- **C/C++:** OpenCV, First-class functions, class templates, shared pointers, function pointers, etc. **Twelve years** of programming and teaching experience since 2010.
- **R:** Rule Learning, Statistical Learning, Data Analysis.
- **Java and MATLAB:** TA for 2 years.
- **SQL**, **PHP**, **JavaScript**, **C#**, **HTML**, **CSS**, **VHDL**, **Verilog**, **Wireshark**, **ADS**, **Linux**, **LaTeX**, **Git**.

Rewards and Achievements

2023	**5** Publications	For the list of my publications please refer to my LinkedIn or google scholar page.
2023	**$8000** Scholarship	Research in **Deep Reinforcement Learning** Based Electric Vehicles Charging Management in Smart Cities domain, York University.
2022	**$4370** Fellowship	Graduate Assistant, York University.
2021	**$62,500** Scholarship	Master of Applied Science full-fund scholarship, York University.
2016	**517th**/162,879	The Coordinated Nationwide Test for electrical and computer engineering schools of Iran.

Experience

York University **2021 – 2023**
Graduate Assistant, Research Assistant, Teaching Assistant

- Proposed a method to estimate jamming patterns in a wireless network using explainable artificial intelligence and combined that idea with an **integrated feature extractor** type of transfer learning and **reduced the time complexity of the models by x30** (**x30 faster training time**).
- Realized an **explainable reinforcement learning** using **random forest, K-means clustering, pattern recognition, rule learning, decision trees, and RIPPER** methods for RL models utilized for anti-jamming and made the process **transparent** for the users without engineering knowledge.
- introduced a neural network architecture achieving **13% higher throughput** than convolutional neural networks.

Digikala.com **2019 – 2021**
Machine Learning Developer

- Increased the number of purchases with more than one item from **0.2 million** a month to more than **1.5 million**.
- Started as an intern and hired by the company after three months. It was a great experience allowing me to master in machine learning and deep learning. Implemented models in practice such as **natural language processing, tree models, Gaussian mixture models, support vector machine, regression models, Bayesian models**, etc.

Amirkabir University **2017 – 2021**
Research Assistant, Teaching Assistant

- Realizing WiFi-LTE coexistence in 5GHz unlicensed band using **double Q-iteration** algorithm, distributed dynamic spectrum access on both Python and MATLAB, multiple access problems in heterogeneous wireless networks using **online actor-critic** algorithm, etc. Most of the projects were based on the most recent research papers.
- Optimized the resource allocation system in distributed computer networks with prioritized packets using ML/AI, which **increased the throughput of the wireless system by 15%**.