Siavash Barqi Janiar

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Education

York University **2021 – 2023**
Master of Applied Science in Electrical Engineering and Computer Science
- Nominated for the University's Best Thesis of the Year, GPA: A+

Amirkabir University(Tehran Polytechnic) **2016 – 2021**
Bachelor of Science in Electrical Engineering

Experience

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

- Proposed an **explainable artificial intelligence (XAI)** based method combined with **integrated feature extractor** to estimate jamming patterns in a wireless network. **Reduced the time complexity of the models by x30**.
- Realized an XAI method 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 **June 2019 – January 2021**
Machine Learning Developer

- Frameworks used in the job include **Amazon Web Services (AWS)** and **Natural Language Processing (NLP)**.
- Increased the number of purchases with more than one item from **0.2 million** a month to more than **1.5 million** using the proposed algorithm, published as an essay in the company.
- Hired by the company after three months due to showing a high performance during the internship program.

The Ministry of Information and Communications Technology (ICT) **May 2017 – April 2018 (12 months)**
Machine Learning Developer - Wireless Network Administrator (Internship)

- Realizing WiFi-LTE coexistence in 5GHz unlicensed band using **double Q-iteration** algorithm **decreasing the amount of collisions in the cognitive radio network by roughly 24%** compared to the legacy protocols.
- Utilized ML for distributed dynamic spectrum access **increasing the throughput of the network by nearly 60%** compared to slotted ALOHA MAC protocol.
- Utilized **online actor-critic** ML algorithm for access problems in heterogeneous wireless networks using **achieving 95% throughput in the network marked as the highest possible performance**.
- 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%** compared to the previous works' algorithms.

Hard Skills

- **Python:** Tensorflow, Keras, PyTorch, Sci-kit Learn, Pandas, Socket Programming, Thread Programming, Aircrack-ng, Qt Design.
- **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.
- **AWS**, **ETLs**, **ECS**, **Go**, **SQL**, **PHP**, **JavaScript**, **C#**, **HTML**, **CSS**, **VHDL**, **Verilog**, **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.