

MILAD KHADEMI NORI, PHD

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SUMMARY

Highly analytical and results-driven data scientist with a strong statistical analysis, machine learning, and data visualization background. Seeking a challenging position in data science to leverage my skills and contribute to data-driven decision-making.

TECHNICAL SKILLS

Data Analysis: Proficient in data cleaning, exploratory data analysis, and feature engineering techniques

Machine Learning: Experience in developing supervised and unsupervised machine learning models

Programming: Proficient in Python and SQL, and in libraries such as PyTorch, TensorFlow, Pandas, and NumPy

Data Visualization: Skilled in creating visually appealing and informative visualizations using tools like Matplotlib

Statistical Analysis: Statistical techniques such as Hypothesis testing, regression analysis, and experimental design

Big Data Technologies: Familiarity with distributed computing frameworks like Hadoop and Spark

Linux: Proficient in Linux operating systems and adeptly navigating terminal commands and troubleshooting

Text Processing: Skilled in both LaTeX and Microsoft Word, crafting and formatting documents

Presentation: Experienced in PowerPoint, creating appealing presentations that convey complex information

EXPERIENCE

Queen's University, Innovation Park, Kingston, ON, Canada: Exploratory Data Analysis Jan 2023 – Apr 2023

- Conducted exploratory data analysis to gain insights and identify cancer in prostate datasets
- Worked with a variety of data modalities (CT scans and mass-spectrometry) from medical instruments
- Implemented comprehensive data preprocessing and data cleaning techniques to prepare the medical data
- Dealt with 3D data from medical instruments (volumes made up of voxels instead of pictures made up of pixels)
- Designed techniques for landmark registration for medical data
- Authored four technical reports (besides the codes) for the projects

Queen's University, Ingenuity Lab, Kingston, ON, Canada: Vice-President Sep 2019 – Sep 2023

- Served as the speaker, vice-president, and public relations chair of Ingenuity Lab
- Gave regular speeches about the broader impacts of Artificial Intelligence
- Talking about the opportunities ahead presented by Artificial Intelligence
- Mentoring enthusiastic undergrads guiding them to grow awareness about Artificial Intelligence

Queen's University, ECE Dep., Kingston, ON, Canada: Instructor (and Teacher Assistant) Sep 2019 – Sep 2023

- Taught 110 undergraduate engineering students per week in MATLAB programming and math coursework
- Taught 90 undergraduate engineering students in Python programming about Discrete Signal Processing

Huawei Technology, Ottawa, Kanata, ON, Canada: Research Assistance August 2019 – November 2023

- Conducted research on non-IID Deep Learning with unusual data distribution
- Studied the issue of communication burden and non-IID data distribution in Federated Learning
- Done research on Continual Learning to overcome issues of Catastrophic Forgetting and Task Confusion
- Held regular meetings every six months to present the results in person
- Authored five technical papers (besides the codes) for the projects in top-tier journals

Huawei Technology, Jordan Street, Tehran, Iran: Network Specialist Jan 2017 – Apr 2019

- Initialization and maintenance of network equipments in buildings and offices
- Worked with switches and routers
- Received the well-respected Huawei Certified Network Associate (HCNA)
- Held network classes for students at the Huawei center

EDUCATION

- PhD, Non-IID Deep Learning Across Space and Time (Professor Il-Min Kim)** Graduating November 2023
Queen's University, Kingston, ON, Canada 3.9 GPA
Proposing a General Framework for Non-IID Deep Learning: Federated Learning and Continual Learning
Relevant coursework: Medical Image Processing with Deep Learning and Machine Vision
- MSc, Energy Harvesting Wireless Sensor Networks (Professor Saeed Sharifian)** Graduating July 2019
Amirkabir University of Technology, Tehran, Iran 3.8 GPA
Designing an Energy Efficient Protocol for Energy Harvesting Wireless Sensor Networks in the Internet of Things
Relevant coursework: Neural Networks and Machine Learning
- BSc, Digital Electronic Systems (Professor Naser Eskandarian)** Graduating June 2016
Semnan University, Semnan, Iran 3.7 GPA
Designing and Implementing a Quadcopter Controlled by Bluetooth in Cooperation with a Group of Engineers
Relevant coursework: Electronics (1, 2, and 3) and Electrical Circuits (1 and 2)

ACADEMIC PROJECTS

- Incremental Federated Learning** Winter 2022 – Fall 2023
Conducted three researchers in undertaking the holistic problem of Non-IID Deep Learning
- Developed an original mathematical framework to gain insight into holistic Non-IID Deep Learning
 - Proposed schemes for Incremental Federated Learning that are immune to the issue of Loss Neglect
 - Written a technical paper and submitted it to IEEE TNNLS
- Task-Free Incremental Learning via Mixture of Batchnoise Autoencoders** Spring 2022 – Winter 2022
Led a team of three to propose a radical scheme for task-free Incremental Learning
- Laid out the foundation of task-free Incremental Learning via a mathematical framework
 - Proposed a scheme that achieves state-of-the-art results (submitted to IEEE TAI)
- Class-Incremental Learning: A Mathematical Framework** Fall 2021 – Fall 2022
Worked with three researchers to resolve a pressing problem of Class-Incremental Learning
- Proposed a mathematical framework to understand the problems of Class-Incremental Learning
 - Presented novel theoretical results clarifying sophisticated aspects of Class-Incremental Learning
 - Provided substantial evidence indicating the descriptive and prescriptive power of our theoretical results
 - This paper is submitted to IEEE TNNLS and is under review
- On The Effectiveness of Activation Noise in Both Training and Inference** Summer 2020 – Fall 2021
Teamed up with three researchers to study the impact of noise in training and inference
- Found remarkable results on the role of noise in generative modeling-based classifier
 - Our results indicate that noise can boost the performance up to 3 times (submitted to IEEE TNNLS)
- Fast Federated Learning by Balancing Communication Trade-Offs** Fall 2019 – Fall 2020
Collaborated in a team of three to formulate and propose a new Federated Learning scheme
- Proposed a new mathematical framework to consolidate local update and compression in Federated Learning
 - Wrote the code as well as the paper, and also, performed the derivations of the paper
 - Our paper received 40 citations from prestigious venues including Nature and IEEE Transactions
- EDMAR2: A hierarchical routing protocol for EH-WSNs** Fall 2018 – Fall 2019
Worked on the routing problem of Energy-Harvesting Wireless Sensor Networks
- Proposed a mathematical framework to understand the problems of Continual Learning
 - Proposed schemes for class-incremental learning and task-free learning