Nima (Ross) Sarajpoor

Ontario, Canada

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Highlights (hyperlinks included)

- **Machine Learning**
  - **Experienced with several libraries in Python**: TensorFlow, Scikit-learn, Numpy, Pandas, and Numba.
  - **Experienced with supervised and unsupervised machine learning models** (see IEEE journal papers 1 and 2)
  - **Developed support for feature group in the machine learning software MLXTEND** to enhance feature selection module, particularly for categorical data (see CHANGELOG)
  - **Implemented arbitrary-length anomaly detection algorithm** while reducing its computing time by providing a warm start (see MERLIN)
  - **Developped a major feature in STUMPY software to support top-k neighbors in matrix profile algorithm** (see PR#595 and PR#586)
  - **Created** RandomForestExplorer package to extract frequent rules from decision paths of RF
  - **Created tutorials in machine learning** (see POSTS)
- **Programming**
  - **Proficient in Python**, led lectures for a crash course on python with more than 50 participants
  - Familiar with **data structure and algorithms**, ranked 5^{th} in Programming Contest (CCPC).
  - Experienced with **refactoring** (see PR#656) and **unit testing** (see PR#657)
  - Experienced with version control **Git (+ Github)**
  - Experienced with **Shell scripting**
  - Experienced with **SQL**
- **Math**
  - **Strong quantitative reasoning**, verified an equation after fixing the typo (see the long proof here: VALMOD notebook)
  - **GPA 4.0/4.0 on university-level courses on mathematics**
  - **Took advanced courses:** "data mining [algorithms]", "applied data science", "probability and stochastic process", and "computational statistics." (GPA: 3.85)
- **Leadership and Engagement**
  - **Successfully managed two projects** by coordinating our data engineers as well as our machine learning engineers to deliver the product.
  - **Provided consultation for data architecture team** to enhance the source data
  - **Led a new project and successfully developed Github actions** for CI/CD process by running unit test

Employment / Education

- **Data Scientist** — Toronto, Canada
  Manulife Financial Corporation (Fraud Detection) — *Jan 2023 - Current*
- **University of Calgary** — Alberta, Canada
  PhD, Dept. of Electrical and Software Engineering (Analyzing energy data) — *Grad: Dec 2022*
- **Sharif University of Technology** — Tehran, Iran
  SUT is ranked 1st among Iranian Universities in Science and Engineering — *2013 - 2015*

Selected Achievements and Awards

- **Programming Contest (CCPC)** — Alberta, Canada
  Ranked 5th in Calgary Collegiate Programming Contest — *2022*
- **Software Development** — Canada
  Top contributor in two open-source tools for data analysis STUMPY and MLXTEND — *2022*
- **Gordon Lewis Hedberg Doctoral Scholarship** — Alberta, Canada
  Student with Excellent Grades — *2021*
- **Deep Learning Certificates** — Deeplearning.ai
  Cetificates: DL basics, hyperparameter tuning, CNN, ML project structure in DL — *2021*
- **Ph.D. National Competition Award** — Tehran, Iran
  Ranked 1^{st} among more than 1000 participants of PhD National Exam — *2016*
  (Afterwards, I applied to Canada.)
- **M.Sc. National Competition Award** — Tehran, Iran
  Ranked 6^{th} among more than 5000 participants of M.Sc. National Exam — *2013*

Publications

- Sarajpoor, Nima, et al. "Generalizing Time Aggregation to Out-of-Sample Data using Minimum Bipartite Graph Matching for Power System studies" IEEE [Under Review]
- Sarajpoor, Nima, et al. "A shape-based clustering framework for time aggregation in the presence of variable generation and energy storage."IEEE Open Access Journal of Power and Energy 8 (2021): 448-459.
- Sarajpoor, Nima, et al. "Time Aggregation in Presence of Multiple Variable Energy Resources."IEEE Transactions on Power Systems (2023).
- Sarajpoor, Nima, et al. "Generalizing Time Aggregation to Out-of-sample Data Using Minimum Bipartite Graph Matching for Power Systems Studies." IEEE Transactions on Power Systems, under review (2023)
- Sarajpoor, Nima, et al. "Reliability-based Design of Time-Varying Tariff" ICEE (2023)

Voluntary Positions

- **Lecture Lead and Mentor in Python programming** — Alberta, Canada
  Schulich Ignite, University of Calgary — *Winter 2022- Summer 2022*
- **President / Vice President of Grad Students** — Alberta, Canada
  Department of Electrical and Software Engineering — *2017-2020*
- **Evaluator** — Alberta, Canada
  IEEE award committee, Graduate Student Association — *2017-2018*

Soft Skills

Leadership (while creating a safe environment for people to come forward and share their concerns), Self-learning, problem-solving, and articulate in technical subjects.

Extra-curricular Activities

Playing chess, listening to piano music, and reading philosophical books