Ahmed Rosanally

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Education

University of Toronto — Toronto, Ontario

Bachelor of Engineering Science, Specialization in Machine Learning — *Sept. 2016 – May 2022*

- Undergraduate thesis: Machine Learning Accelerated Power Flow Calculation with Professor Zeb Tate
- Dean's Honour List Final Year, 3.93 GPA

Experience

Software Engineer — Jan. 2023 – Present

MDA Space — *Montreal, QC*

- Implemented and tested the software subsystem of the payload emulator project
- Developed the end-to-end architecture on a Linux-based system using Python following ICD documents.
- Used work methodologies such as Scrum and Agile to self-manage the project

Machine Learning Researcher — Sept. 2020 – May 2022

University of Toronto — *Toronto, ON*

- Implemented, trained and tested different neural network architectures such as 1D-CNNs and GNNs to solve Power Flow
- Leveraged Canada Compute's clusters to accelerate the training time of Deep Neural Networks

Software Engineering Intern — Sept. 2019 – Jul 2020

ABB Inc. — *Greater Toronto Area*

- Diagnosed various transformer issues and suggesting solutions.
- Worked closely with mechanical design using CAD tools to extract transformer sketches to create a handwritten OCR dataset
- Designed and implemented a desktop web app using Electron, Node.js, HTML, CSS, Figma, Google's Tesseract OCR and a development handwritten OCR using extracted transformer sketches
- Used various tools and techniques to test the performance of the app among colleagues such as AB testing, performance testing, and unit testing

Projects

APPrenctice | *Python, Flask, React, ElasticSearch, Docker* — Sept. 2021 – Dec. 2021

- Developed a full-stack web application using with Flask serving a REST API with React as the front-end
- Served as the front-end developer for the project. Troubleshooted issues related to UI/UX
- Implemented GitHub Actions to automate CD/CI pipeline
- GitHub project cards for asynchronous tasks

Multi-label Instrument Classifier | *Git, PyTorch, sklearn* — May 2021 – Sept. 2021

- Architected, implemented and trained 1D CNNs to predict multiple instruments playing in an audio sample
- Collaborated with peers and researchers in the field to suggest architecture improvements to achieve better model accuracy on the test set (best accuracy reached: 70.66 %)

Technical Skills

Languages: Python (experienced), C/C++ (familiar), SQL (Postgres) (familiar) , JavaScript (familiar), HTML/CSS (experienced), Rust (familiar), MATLAB (familiar)
Frameworks: Node.js, Flask, pytest, Bootstrap, Jinja templating
Developer Tools: Git, Docker, Heroku, JIRA, Confluence, Google Cloud Platform, VS Code, PyCharm, Figma
Libraries: pandas, NumPy, Matplotlib, PyTorch, TensorFlow, keras, sklearn, Objax, OpenCV

Other Skills

Languages: English (Native), French (Native), Arabic (Intermediate)
Hobbies: Guitar (10 years), Table Tennis (10 years), Soccer (11 years)