Aymen Rumi

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Education

McGill University — Montreal, Canada | 2015 – 2020

Bachelor of Science: • Major - **Computer Science** • Minor - **Mathematics** (Probability & Statistics)

Legal Status

Dual Citizen (United States / Canada)

Experience

7Square – Data Scientist / Machine Learning Engineer — Montreal, Canada | May 2020 – January 2021

- Built platform to provide real estate analytics for professionals across the Toronto real estate market through **REST APIs** with **Python (Flask)** and **SwaggerHub.**
- Set up **ETL pipelines** to get new daily listings which included analyzing, cleaning, formatting, model preprocessing datasets.
- Implemented **machine learning models** for automated valuation and rent estimation of properties.

UofT AI – ML for Climate Change Researcher — Remote | September – December 2020

- Represented McGill University in a multi-school research competition looking at machine learning methods to fight climate change
- Analyzed potential reduction in water & energy consumption through **data analysis** of agricultural & irrigation dataset, using **R**.
- In charge of writing research paper investigating potentiality of **RL** for optimizing autonomous farming systems.

CAE Inc. – Software Developer — Montreal, Canada | May – August 2018

- Implemented automated system testing features to CAE's Simfinity virtual simulator with **C++** & **C#** in an **AGILE** development team using **Git** version control.
- Engineered tools allowing for better diagnosis, validation, and debugging of existing & future software functionalities.

Highlighted Projects – *for more please visit my Portfolio at: aymenrumi.github.io*

ML Medical Application

- Built **CRUD** web application using **HTML**, **CSS**, **JavaScript, Python (Flask), AWS (DynamoDB, RDS)** deployed on **AWS EC2** with **Docker**
- Application allows users to predict medical failures, predict diagnosis, & view medical analytic dashboards made with **Plotly**.
- **Machine learning** models trained & tested using Python- **Scikit-Learn** & **TensorFlow** (random forest & convolutional neural network)

Insider Trading Live Analytics

- Built a real-time streaming **ETL pipeline**, using **Apache Kakfa** with automated scheduling using **Airflow** for insider trading activity.
- Data is extracted real-time through web scraping with **Selenium**, loaded into **AWS Redshift** and updated on a **Tableau** dashboard.

Morris Water Maze Task

- Replicated results from a computational neuroscience paper studying neural mechanisms of spatial learning & memory, in **Python**
- Simulated a rat's spatial navigation and memory-based coordinate system via **actor-critic network** using temporal difference learning

House Prices: Advanced Regression Techniques

- Data cleaning with imputations, **data visualization**, dimensionality reduction with PCA & data preprocessing done using **R**.
- Machine learning model trained, tuned, and tested using k-fold cross validation done in **Python**

Relevant Skill & Coursework

Skills

Programming:

Proficient: • Python • R • MATLAB • Java • SQL • Linux Commands | *Intermediate:* • HTML • CSS • JavaScript • C++ • C# • C

Libraries / Tools: • Scikit-Learn • Keras • TensorFlow • PyTorch • Tableau • Plotly • Ggplot2 • Flask • AWS • Git • Docker • LaTeX • RMarkdown

Languages: • English • French • Bengali

Relevant Courses

Computer Science: • Algorithms & Data Structures • Software Design • Operating Systems • Database Systems • Theory of Computation • Artificial Intelligence • Robotics & Intelligent Systems • Computational Biology Methods • Numerical Computing • Distributed Systems Design • Applied Machine Learning • Brain-Inspired Artificial Intelligence

Math/Statistics: • Probability • Statistics • Intro to Stochastic Processes • Intro to Statistical Computing • Honors Regression and Analysis of Variance • Intro to Time Series Analysis