

Rafik M. Chemli

Montreal, Quebec, Canada



rafik.madjdi.chemli@gmail.com



[linkedin.com/in/rafikchemli](https://www.linkedin.com/in/rafikchemli)

Summary

<https://rafikchemli.com/>

I had always been interested in the inner workings of the brain and aspired to be a neuroscientist. However, while interning at a research facility, I found myself performing manual repetitive tasks on a regular basis. I became aware of the necessity to introduce automation and analytics into a variety of industries. Since then, I've made the decision to focus on learning and improving my programming, data science, machine learning, and automation skills. Now I can create my own neural networks.

Experience



Senior Data Scientist

Government of Canada

Sep 2022 - Present (8 months)

Statistics Canada - Data science division.

I was part of the developing team for Hydra, a highly efficient pipeline that is designed to automate the extraction of valuable information from a range of structured and unstructured data sources.

ETL data pipelines, Information Extraction, cloud architectures.



Senior Compliance Analyst

Government of Canada

Jan 2022 - Oct 2022 (10 months)

- Modeling and Statistical Analysis of the Canadian Underground Economy in order to increase compliance, Using multiple secure tools within CRA network. R, SQL, SPSS, SAS.
- Handling big data structures.
- Understanding of Corporate and individual tax designs and their associated data structure in the CRA.
- Supporting provincial regions as an analytics expert for multi-millions data driven projects.



Data Scientist

Galenus Sciences

Oct 2020 - Dec 2021 (1 year 3 months)

- Optimization of nanoparticles magnetic beads used by the Canadian government for massive scale nationwide covid-19 testing by using Python, Keras, tensorflow, Neural networks, Xgboost, scikit, and multiple machine learning pipelines for data preprocessing and engineering, feature engineering, and interpretability.

- Development of a comprehensive and flexible web application dashboard using Python3, dash, plotly, flask app factory, CSS and html for data visualization of multi dimensions(30+) over 100,000 data points.
- Working in collaboration with a multidisciplinary R&D team of chemist, biologist and biochemist to better understand and optimize the dynamics of the different products.
- Second hand experience using AWS, sagemaker, Tableau, Tensorflow, streamlit, Docker and Heroku for Web Server Hosting.

Python, bash, git, data Engineering (pandas, numpy), XGboost, SVM, Keras, tensorflow, scikit, Dash, Plotly, Flask app Factory, live Web application, CSS, html, Google cloud API Console, T-sne, feature engineering (hot encoding, correlations, power transformations), Monte carlo simulation, model interpretability (Shapley, feature permutation, Partial dependence), Operational research, applied Statistics.



Analyst & Developer

Sphera

Nov 2019 - Oct 2020 (1 year)

Developed and maintained “Intelligent authoring”. A compliance management software built in .net, SQL and on Microsoft Azure Cloud for country-specific hazard communication and chemical control regulations as a tool for Environment, Health and Safety management solutions.

Used by key players in the energy industry like Shell, BP and Exxon to label and instruct about their products internationally and safely.



Data Scientist Intern

My Intelligent Machines Inc.

May 2019 - Sep 2019 (5 months)

Statistical Analysis and Optimization of over a million multi-omics data point on a Linux local server using Rstudio server, Python, SQL, and Bash.

Designed multiple regression and classification prediction model with Python3, Scikit, Jupiter Notebook and R studio in order to detect new therapeutic targets against basal-like and triple-negative breast cancer with experimental and clinical data.



Technical Assistant

Light House

Jun 2018 - Jan 2019 (8 months)

Designed and automated multiple project tracking tools used in LEED certification with Excel Visual Basic (VB) programming. (AKA Excel wizard). Used to track advancement of leed certification for multi-million projects such as Central city mall in Surrey, Vancouver.



Drafting committee member

Université du Québec à Montréal

Jan 2018 - Apr 2018 (4 months)

Member of the drafting committee for the student's Science journal Le Point Bio.



Research Assistant

Université de Montréal

May 2017 - Sep 2017 (5 months)

In-vitro characterisation of the post-synaptic protein level of Neuroligin-1(NL-1) after exposition to beta-amyloid oligomers (βA) in Alzheimer research context.

-Neuropharmacology Research Center, Hospital Sacré-Coeur of Montréal (HSCM).

Education



Université du Québec à Montréal

Master's degree, Bioinformatics

2018 - 2019

Advanced programming:

Python, SQL, Bash & R courses. Object oriented programming, relational database, introduction to High-Performance Computing (HPC) with Calcul Québec servers.

Statistics:

Bayesian inference, poisson point process, Markov chains, Machine learning applications (classification, regression, evaluation)

Bioinformatics:

Courses on NGS, Bioinformatic databases, RNA-seq pipeline, methyl-seq, with hands on experience on HPC Cedar server (Calcul Canada).

End of year project:

Automatic detection and classification of EEG sleep waves written in Java, C++, Python and Bash.



The University of British Columbia

2018 - 2018

Intensive English learning program at the English Language Institute (ELI)



Université du Québec à Montréal

Bachelor of Science - BS, Physiology and Toxicology

2015 - 2018

Problem-based learning, with a focus on Human Physiology and Toxicology.

Statistical courses for data analysis (correlations, multivariate correlations, T-test, parametric and non parametric tests, R programming)

Licenses & Certifications



Workplace Hazardous Materials Information System (WHMIS/SIMDUT)



ELI English certificate (UBC)



Cyber Security for Citizen Developer - Government of Canada

Skills

Machine Learning • Data Science • dashboards • Statistical Modeling • Statistical Data Analysis •
Data Analysis • Project Planning • Data Visualization • Deep Learning • Simulations