






# Omar Hayat

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## EXPERIENCE

**Financial Transactions and Reports Analysis Centre of Canada (FINTRAC)** Ottawa, ON  
*Data Scientist Intern, Advanced Analytics Lab | Python, numpy, pandas, R, tidyverse, SQL, Excel* Sep 2021 - Present

- Collaborated with team of senior data scientists to improve existing and develop new methods of data extraction, analysis and visualization to expose money laundering and terrorist financing efforts from hundreds of thousands of incoming financial transaction reports
- Executed SQL queries on large relational database and extracted results into excel to develop pivot tables and format data as deliverable for various internal departments
- Investigated inefficiencies in frequently used python, R and SQL scripts and pitched improvements to senior team members

**Novartis International AG** Remote  
*Data Science Intern | Python, numpy, pandas, R, TensorFlow, Excel* Jun 2020 - Dec 2020

- Derived business insight from decade of sales data to predict consumer buying pattern in team of four through LSTM and ARIMA forecasting models; doubled the accuracy compared to previous techniques
- Communicated and visualized final results to senior management and suggested strategies to further leverage data analysis techniques to highlight market trends in the pharmaceutical industry
- Removed data redundancy by identifying ~11,000 duplicate accounts in database of over 300,000 clients due to merger from legacy to new database management system; saved associates hours of work time handling data inconsistencies due to these duplicates

**Professor WonSook Lee, Faculty of Engineering University of Ottawa** Ottawa, ON  
*Research Assistant | Java, Android Studio, Swift, Xcode* Sep 2020 - Dec 2020

- Developed UI features for application to monitor social distance of patients and employees for local hospital reducing management efforts to comply with COVID-19 regulations

**Professor Yongyi Mao, Faculty of Engineering University of Ottawa** Ottawa, ON  
*Research Assistant | Python, numpy, pandas* May 2019 - Sep 2019

- Implemented functions that manipulated, and normalized matrices and visualized model performance for use in 3 regression models that handled image recognition on various colored and uncolored data sets of 60,000 images each
- Tuned batch size and learning rate to improve accuracy of models up to 96% in fewer epochs

## VOLUNTEER

**UO Supermileage** Ottawa, ON  
*Software Team Lead | C/C++, Arduino, JavaScript, HTML/CSS* Jan 2021 - Present

- Led software development for motor controller, accessory components and website for university electric vehicle team competing at Shell-Eco Marathon Americas against 30+ teams from across North and South America
- Organized weekly meetings with team of 5 developers to touch base on progress and liaised with electrical, mechanical, business and media sub-teams to ensure competition deadlines are met

## EDUCATION

University of Ottawa Ottawa, ON  
*Joint Honours Bachelor of Science in Computer Science and Mathematics; CGPA: 8.41/10* Sep 2018 - Dec 2022

## TECHNICAL SKILLS

**Languages:** *Strong:* Python, Java, SQL, R,  $\text{\LaTeX}$  *Familiar :* C/C++, Go, Racket, JavaScript, HTML/CSS

**Libraries:** cx\_Oracle, pandas, NumPy, Matplotlib, tidyverse

**Tools/Frameworks:** Git, VS Code, RStudio, Toad, PostgreSQL, Excel, Cloudflare, Netlify, Docker, Hugo, Jekyll

## EXTRACURRICULARS

**MNIST10/CIFAR10 Regression Models:** Built binary, logistic, and softmax regression models from scratch for image classification on CIFAR10 and MNIST data sets achieving maximum accuracy of 92%

**McGill Hackathon (2020):** Leveraged IBM Natural Language Processing API sentiment analysis feature to prototype voice activated mental health chat bot

## AWARDS/RELEVANT COURSES

**Honours/Achievements:** Dean's Honours List (2018-2021); Shell-Eco Marathon Americas 4th Place (of 31 Teams across North and South America) (2019); McGill Hackathon Novartis Challenge (2020)

**Courses:** Fundamentals of Data Science; Time Series; Real Analysis; Applied Probability; Applied Linear Algebra; Honours Linear Algebra; Multivariable Calculus; Analysis of Algorithms I; Databases I; Introduction to Statistics