Moosa, Mohamed

(438) 270-9429 | Montréal, QC | mohamed.moosa@umontreal.ca | linkedin.com/in/moosa-sikkander/

I am an experienced Data Scientist who enjoys leveraging machine learning to solve complex problems, with a keen interest in conducting and applying research that enhances predictive accuracy and strategic decision-making.

EXPERIENCE

BIXI • LispLogics
Data Scientist • Co-op

Since May 2024
Montréal, QC

- Lisplogics handles the logistical operations of BIXI Montréal's bike-share system (second largest in NA). I spearhead logistical algorithms for battery swaps and bike rebalances, assigning **400,000 annual tasks**.
- Designed and deployed a demand forecasting model to predict the prevalence of non-functional bikes across city sectors with **75% precision**, supporting efficient resource allocation.
- Designed a proxy for demand at high-demand stations with low bike and dock availability. Deployed a model that used this proxy and **improved high-demand station availability by 11%.**
- Designed (and to be deployed) a dynamic multi-objective optimization model leveraging predictive demand, simulating a **bike downtime reduction from 3.49 hours to 3.07 hours** on average during rush hours.

Swiggy
Data Scientist - II | June 2021 - Jan 2023

Jan 2021 - Jan 2023
Bengaluru, KA

Swiggy, the **"DoorDash of India"**, completes around 3 million deliveries daily. I developed Deep Learning models for time predictions across all verticals

- Designed and deployed Neural Nets for the real-time tracking screen, **improving post-order accuracy (± 5 mins) by 16% and compliance by 12%**
- Developed a Multi-Input Multi-Output Neural Net for Instamart promises that enhance **prediction accuracy by ~30%.**
- Implemented a Custom Loss Function of promises further **reducing delays from 5% to 2% and increasing early deliveries by 23pp.**
- Enhanced computational infrastructure and optimized machine learning models, enabling the scaling of Instamart's operations from **30,000 to approximately 500,000 orders per day.**

Mentoring and Leadership:
- Mentored a Junior Data Scientist in building an Ensemble-Based model for the pickup and drop service line, **reducing delays from 18% to 6% as well as being more accurate (+3pp)**
- Quarterly, Half-yearly and Yearly planning of Instamart and Genie's post-order experience (~550,000 orders).

Achievements:
- Certificate of Excellence in September 2023.
- Promoted to Data Scientist II in October 2023.

Research Scientist | Jan 2021 - June 2021
- Designed and built a **BERT-based category** classifier from the free text description of items provided by customers.
- Published a study on Active Learning for multi-class text classification and **reducing all annotation costs by 85%.**

EDUCATION

Université de Montréal - Montréal, QC
Master in Science, Computer Science

2023 – 2025 (exp.)

- GPA 4.3/4.3
- Teaching Assistant for STT1903 - Statistics under Prof. Dhaker Kroumi (Ph.D. Université de Montréal).
- Research Assistant @ GRANIT Montréal – Studying Transformers and Deep Convolutional Networks for mitigating floods from Rivière des Mille Îles under Prof. Azzeddine Soulaimani (Full Prof, ETS).

Indian Institute of Information Technology - AP, India   2017 – 2021

Bachelor of Technology, Computer Science and Engineering

- GPA 8.65/10
- **Teaching Assistant**
    - Computer Programming under Prof. Rajendra Prasad (Ph.D. IIT Kharagpur).
    - Advanced Software Engineering under Prof. Subu Kandaswamy (Ph.D. Northwestern University).

PUBLICATIONS

- *S Prabhu *, **M Mohamed***, et al.,* **Multi-class Text Classification using BERT-based Active Learning**, ***DaSH@KDD 2021***
- *A Soulaimani, **M Mohamed**, et al.,* **Deep Convolutional Architectures for Forecasts in Flow Problems**. ***WCCM 2024***

GRANTS & AWARDS

- Université de Montréal bourse d'exemption, 2e cycle (**10,169.68 CAD**)   *Aug 2023 – Aug 2024*
- Le Ministère de l'Enseignement supérieur x DIRO (**3000 CAD**)   *Dec 2023*
- Received the (Annual) Swiggy Certificate of Excellence   *Sept 2022*
- Promotion to L2 Data Scientist at Swiggy   *Oct 2022*

SKILLS

- **Natural Languages:** Native English, Basic French
- **Programming Languages:** C, C++, Python, MATLAB, JavaScript, Scala, SQL, PySpark
- **Tools:** AWS (Sagemaker), Pandas, Databricks, Git, Docker, Flutter, scikit-learn

---

VOLUNTARY & EXTRA-CURRICULARS

- Took lectures for over 50 students on statistics, AI/ML, and Software development in partnership with TechiMax (India).
- Member of the Agent-Based Modeling research group at IIITS since 2019 led by Prof. Subu Kandaswamy.
- Sponsorship Team Lead for Abhisarga, IIITS' techno-cultural fest for the 2019 edition which brought over 1000 participants.
- Developed applications for green energy and solar education in partnership with Vigor Solar Energy (India)