Maryam Moadeli

• Toronto, ON, Canada • LinkedIn.com/in/MaryamMo
• moaddeli.m@gmail.com • +1 (647) 617 5762

Data Scientist with extensive experience in natural language processing (NLP) across financial and healthcare sectors. Expert in Machine Learning and optimization operations, with strong quantitative and analytical skills. Have proven team-work spirit, commitment and leadership skills.

WORK EXPERIENCE

RBC   **Toronto, ON**
Data Scientist – Investment Service   *Oct 2022 – Present*

- Led **NLP** and **GenAI** initiatives for Investment service systems at RBC, significantly enhancing sector-specific data analytics through customized solutions.
- Worked with cross-functional teams to identify growth opportunities, improving customer service satisfaction by 25% through **personalized AI-driven insights**.
- Maintained active communication with business leaders and technology teams to develop ideas and align project goals.
- Designed and deployed scalable NLP components to integrate **information extraction** and automate workload, resulting in a 50% boost in operational efficiency.
- Optimized document retrieval for SMEs by implementing **query understanding**, **retrieval**, and **ranking** techniques using **embeddings** and **transformer models**, reducing search time and increasing relevance.
- Enhanced customer service by developing and fine-tunning models for email **tag detection** and **response recommendations**, using SBERT embeddings and **topic modeling** to personalize and streamline responses to frequent queries.
- Collaborated with key business partners and stakeholders to develop **OCR technologies** to convert **complex documents** and **semi-structured tables** into digital formats, achieving an accuracy rate above 90%
- Pioneered the design and implementation of a **Retrieval-Augmented Generation (RAG) system** for **extracting insights** from unstructured data.
- Explored designing prompt-based chatbots with **large language models** (LLMs) requiring no training data, configuring open-source LLMs to function as chatbots.
- Implemented and evaluated **chatbots** for FX requests, reducing operational team workload for frequent requests using Dialogflow.

Holland Bloorview Hospital   **Toronto, ON**
Data Scientist   *Sep 2019 – Apr 2022*

- Developed an **end-to-end recommender system** for non-speaking children, using **contextual word embeddings** and speaking partners' speech to reduce communication time by 70%.
- Developed an **end-to-end Question Answering system** for COVID-19, utilizing advanced NLP tools such as **Haystack**, **RoBERTa**, and **BioBERT** to facilitate immediate and accurate responses to pandemic-related inquiries.
  - Conducted comprehensive analyses of policy recommendations, risk factors, and the pandemic's impact on psychological health
- Created a custom chatbot tailored to children's favorite cartoon characters, enhancing engagement and interaction, using **DialogGPT**.

Bruntab Energy   **Tehran, Iran**
IoT Engineer   *Mar 2016 – May 2018*

- Designed and developed cloud-based dataloggers in the R&D department within a dynamic start-up environment.
- Devised optimal approaches for IoT devices, working closely with engineers and clients to meet industrial goals.

EDUCATION

- **M.Sc** - *Biomedical Engineering*, **University of Toronto | GPA: 3.8/4.0**   *2022*
- **M.Sc** - *Electrical Engineering*, **University of Tehran** | **GPA: 4.0/4.0**   *2016*
- **B.Sc** - *Electrical Engineering*, **University of Tehran** |**GPA: 4.0/4.0**   *2013*
- **MBA**, General, University of Tehran   *2017*

Technical Skills

Programming Languages:	Python, SQL, C/C++
Libraries and Framework:	Pandas, NumPy, scikit-learn, SciPy, TensorFlow, PyTorch, Keras, NLTK, Spacy
Tools and Platforms:	Git, GitLab, Docker, Databricks, AWS (S3,EC2), Azure (Azure ML)
Machine Learning Tools:	Large Language Models (LLMs), LangChain, HuggingFace, Transformers, MLOps, Rasa

Volunteer Skills

- Mentored two **<u>KaggleX BIPOC Grant</u>** awardees, advising on **data science and GenAI integration** in business and academic projects.
- Mentored and judged in the **RBC Amplify program**, guiding undergrads in **developing and pitching** business solutions to investors.
- **Provided administrative support for <u>Rubikamp</u>**, an educational non-profit organization, to coordinate and schedule volunteers and help organize events – Mar 2022-present
- Mentored high school students in **<u>Discovery Program</u>** for **capstone STEM projects** – 2019-2020.

Teaching Experience

- **Course Developer and Instructor – *School Bag Project***   *Spring 2024*
  ML & Programming Bootcamp for Afghan Newcomer
- **Course Developer and Instructor - DEEP Robotics**   *Summer 2022*
- **Teaching Assistant, University of Toronto**
  Praxis III-Engineering Science Design   *Winter 2019 -2022*
  CSCA08-Introduction to Computer Science I   *Winter 2021*
  BME1478-Coding for Biomedical Engineers   *Winter 2019-2022*

Personal Projects

- Built a predictive model for Amazon music reviews using CNN and LSTM, reducing MSE to 0.5 from 150,000 text reviews.
- Applied sentiment analysis on tweets using SVM, XGBoost, and NLTK to assess public opinion during the 2019 Canadian political landscape.
- Classified and analyzed Data Scientist salaries from a Kaggle survey of 20,000 participants using Random Forest, SVM, and KNN.
- Employed web scraping with Beautiful Soup and clustering algorithms with SciPy to analyze 1,000 job search webpages, extracting key soft and hard skills.