Melika Torabgar

(780)-722-4490 | linkedin.com/in/melika-torabgar | torabgar.m@gmail.com

SUMMARY

- Experienced **Machine Learning** and **data analysis** enthusiast with over **4 years** in academia and industry.
- Passionate about leveraging data-driven insights for innovative solutions.
- Skilled in **transforming data** insights into **actionable business strategies**.

SKILLS

Technical skills

- **Programming:** *Python, SQL*
- **Database/Datawarehouse:** *Snowflake, MySQL, IBM SPSS Statistics*
- **ML Tools:** *Scikit-learn, Numpy, Pandas, Scipy, TensorFlow, Matplotlib, Seaborn, plotly, OpenCV*
- **Other Tools:** *Microsoft Azure, Git, PowerBI, Streamlit, Docker, Flask, Linux, Jira, Confluence*

Soft skills

- **Communication & Teamwork:** *Effectively convey project updates to non-technical stakeholders through high-quality presentations.*

WORK EXPERIENCE

Machine Learning Engineer (Permanent - Full time) May 2023 – Feb 2024

Origin Electrical LTD.

Electricity Bill Prediction

- Implemented **ETL pipelines** of electrical data from meters for electricity bill prediction model training using Snowflake
- Leveraged **Azure Data Lake** and **Azure AutoML** to optimize data management, automate model training and boost project efficiency
- Adopted Facebook Prophet **time series** ML models to predict electricity usage and bills for the upcoming months
- **Deployed** bill prediction model for production on the Digital Ocean platform
- Improved Prophet model performance by **30%** using **feature engineering**
- Collaborated with front-end developers to design and illustrate the model performances.
- *Technology: Python, **Azure**,Scikitlearn, Facebook Prophet, **Snowflake**, **Docker**, **Flask**, **Git**, Digital Ocean, **MySQL**, Jira, Confluence*

Associate Machine Learning Developer (Contract - Full time) Sep 2022 – April 2023

AltaML Inc.

Government Building application permit

- Collected and labelled data from different databases for the City of Edmonton building application permit
- Trained models on City of Edmonton permit images using **Azure**'s object detection and Custom Vision, achieving **78% accuracy**.
- Optimized the **Streamlit dashboard**, enhancing government efficiency and saving over **$5 million annually**.
- Presented technical training on **Exploratory Data Analysis(EDA)** to over **30+ associates**, and staff at the company
- *Technology: Python, **Azure**, Custom Vision, **OpenCV**, **Streamlit**, Git, Pandas, Scikit-learn, Numpy, Matplotlib, Seaborn*

Solar Forecasting

- Processed **time-series data** from the NASA Power Project
- Developed various Machine Learning models such as **XGBoost**, **Random Forest**, and **LSTM** for solar forecasting
- Applied **LSTM** model with the **highest performance of %82 accuracy** and l**owered the erro**r to **4%** for **time-series** prediction
- Stored data and used AutoML on **Azure Cloud Services** to find the best model for this prediction
- Developed the User Journey, Persona, and ML Canvas for Business Strategies
- *Technology: Python, **Azure**, **Git**, **Pandas**, Scikit-learn, **Tensorflow**, Numpy, Matplotlib, Plotly*

Highly Qualified Personnel (HQP) Feb 2020 – July 2022

AGE-WELL Canada's Technology and Aging Network

Distinguish Dementia with Machine Learning on Older Adults

- Collected, annotated, and cleaned data from people with dementia
- Achieved important features for dementia prediction using Random Forest with **91% F1-score**
- Identified significantly different behaviours using **Chi-squared statistical analysis**
- Constructed four different input variables with important features to get the **highest recall (93%)**

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- *Technology: Python, **Pandas**, **Scikit-learn**, Numpy, Matplotlib, Seaborn*

Research and Teaching Assistant Sep 2017 – June 2022

University of Alberta and Islamic Azad University.

- Screened and reviewed collected data with the Covidence Software for tracking the procedure
- Researched on Measuring Engagement of older adults while Playing Video Games using Machine Learning
- Teaching Assistant in Physiology of Exercise, and Enabling Occupation Through the Use of Assistive Technology
- *Technology: **MS Office software** e.g. Excel, PowerPoint, Covidence*

EDUCATION

MSc, Rehabilitation Science Jan 2020 – July 2022

Department of Rehabilitation Medicine, University of Alberta, Edmonton, AB

*Thesis: Using **Machine Learning** to identify common engagement-related behaviours demonstrated by older adults with dementia While Playing Video Games*

BSc, Biomedical Engineering Sep 2015 – Sep 2019

Department of Engineering, Azad University of Tehran, Iran

Thesis: Femur Simulation with the 3D slicer software

CERTIFICATES

- **Azure AI** fundamentals (AI-900) - Microsoft
- **Machine Learning Technician** Certificate – Alberta Machine Intelligence Institute (Amii)
- **Machine Learning Foundation 1 & 2** - Alberta Machine Intelligence Institute (Amii)
- Python and Machine Learning – Udemy
- Ethical Conduct for Research Involving Humans Course on Research Ethics (TCPS2:CORE)

HONORS & AWARDS

- Amii Machine Learning Technician Scholarship, Alberta Jan 2022
- Rehabilitation Medicine Graduate Student Scholarship, University of Alberta Feb 2021
- Covid-19 Graduate Student Support Award, University of Alberta Mar 2021
- Alberta Graduate Excellence Scholarship (AGES), University of Alberta Sep 2020

PUBLICATIONS & CONFERENCES

- **Torabgar, M.**, Figeys, M. , Esmail,S., Stroulia, E, Rios Rincon, A. The Role of Gaming Behaviours in Identifying Dementia Among Older Adults: An Exploratory Study. *JMIR Serious Games Publication. (Under Review).*
- **Torabgar, M.**, Esmail,S., Stroulia, E, Rios Rincon, A. Using Machine Learning to Distinguish Dementia in Older Adults Based on Engagement-Related Behaviours While Playing Video Games. *Reverse EXPO,* AI4 Society, February 18, 2022. Edmonton, Alberta.
- **Torabgar, M.**, Rios Rincon, A. Using artificial intelligence to assess engagement. *Oral presentation at the World Federation of Occupational Therapists (WFOT) conference*. March 27- 30, 2022. Paris, France.
- **Torabgar, M.**, Rios Rincon, A. Do computers know whether older adults are engaged while playing mobile games? *Twitter presentation at AGE-WELL EPIC Conference 2021 (#AWepic2021)*. June 10, 2021.