




Melika Torabgar

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PROFESSIONAL SUMMARY

I'm an experienced **Data Scientist** with over **4 years** in machine learning, data analysis, and visualization. I excel at transforming **complex data** into actionable insights and creating **visuals** that clearly communicate findings to stakeholders. With strong skills in data modeling and advanced statistical techniques, I'm passionate about using data to drive business growth and deliver innovative solutions.

SKILLS

Technical skills

- **Programming:** *Python, SQL, HTML, CSS*
- **Database/Datawarehouse:** *Snowflake, PostgreSQL, IBM SPSS Statistics*
- **ML:** *Scikit-learn, Numpy, Pandas, Scipy, TensorFlow, Matplotlib, Seaborn, plotly, OpenCV, OpenAI, LangChain, LLM, NLP, Spark, Hadoop*
- **Developer Tools:** *Microsoft Azure, Git, PowerBI, Streamlit, Docker, Flask, Linux, Jira, Confluence, Postman*

Soft skills

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

WORK EXPERIENCE

Data Scientist (Contract - Part time)

June 2024 – Present

Wetraq & University of Alberta

- Implement different ML models to predict individuals who have dementia
- *Technology: Python, Scikit-learn, Git, MySQL, Pandas, Numpy, Matplotlib, Plotly*

Machine Learning Engineer (Permanent - Full time)

May 2023 – April 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 **lowered the error 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*

Data Analyst


Feb 2020 – July 2022


AGE-WELL Canada's Technology and Aging Network


Distinguish Dementia with Machine Learning on Older Adults

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

SELECTED PROJECT

AI Receptionist

April 2024

- Created an AI to answer phone calls and assist customers in scheduling appointments using **Bland AI**
- Integrated the **AI agent** call with Google Calendar to check for existing reservations and offer available time slots
- Utilized the **prompted engineering** for concise reply to the client
- Updated/Automated Google Calendar with customers' desired booking date and time, including their information in the calendar event
- *Technology: Generative AI, LangChain, GPT 3.5 Turbo, GPT 4, Bland AI*

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

- OBIO Health Science Technology Training for Software & Data Professionals - OBIO
- Unleash the Power of Large Language Models Using **LangChain** - Educative
- **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.*