

# Arian Fotouhi

Email: fotouhiarian@gmail.com  
Website: www.arianfotouhi.com

LinkedIn: linkedin.com/in/arian-fotouhi

GitHub: github.com/ArianFotouhi

## Skills

---

- **Programming:** Python, C++, Javascript
- **Libraries and frameworks:** PyTorch, TensorFlow, Scikit-learn, NLTK, spaCy, OpenCV, PySpark, Pandas
- **Database:** MySQL, PostgreSQL, MongoDB
- **Back-end tools:** Flask, Django, FastAPI
- **Deployment:** Docker, Kubernetes
- **Cloud Computing Platforms:** AWS
- **Data Visualization:** Matplotlib, Plotly, Tableau
- **MLOps:** Databricks, Github Actions, AirFlow
- **Front-end tools:** HTML5, CSS3, Angular, Bootstrap

## Experiences

---

- **Research Assistantship, Concordia University** Jan 2021-Jan 2023  
I served as a researcher and developer of medical data sharing framework that is responsible to enhance medical data privacy and security as well as data analysis by AI models, for e-health and IoT applications.
- **Data Engineer, NI2LAB at Concordia University** Mar 2021-Mar 2022  
Responsibilities included pipeline management and API building, to deliver requested data to data science team. Based on the the requested researcher name as input by data science team, the pipeline starts data extraction (by Selenium), data transforming (normalization, remove missing values, etc.) and lastly retrieves the CSV file of all papers, citations and collaborators to the requester team.
- **Web Developer, BSC 2023 Conference** July 2022-Jan 2023  
Web development in Unix environment using SSH protocol

## Education

---

- M.A.Sc. in Electrical and Computer Engineering, Concordia University Jan 2021-Jan 2023  
Selected Courses:  
Machine Learning: the course includes **Linear Regression, Logistic Regression, SVM, KNN, Naïve Bayes, Decision Tree, Random Forest, K-Means, XGBoost** and **PCA**  
Deep Learning: the course includes **CNNs, RNNs, Attention, Transformer, GANs, Multi-Task** and **Transfer Learning**  
Software Engineering: the course includes **Agile methodology, Scrum, Unit testing, and Design Patterns**

## Selected Projects

---

### Deep Learning image classifier API [GitHub Link]

- Data is extracted by ImageNet API of PyTorch
- **PyTorch** CNNs for Multiclass classification
- **Docker** Image of application is built
- The **kubernetes** application is deployed then exposed on ubuntu AWS EC2
- An API is built for the app to facilitate interactions
- Github Actions CI/CD to push latest **docker image** to **dockerhub**

### Tweet sentiment analysis web application

- Data is extracted by **Twitter API** (Tweepy) followed by transformation and preprocessing to clean the text
- **NLTK** is used for sentiment analysis
- **Flask** web framework for **backend**
- The tweets are vectorized using **TFIDF vectorizer** for NLP tasks
- **User friendly front-end** where it receives Twitter account id as well as start and end date of tweets to start analysis

### Prediction of stock prices by RNNs [GitHub Link]

- To predict stock price of Google
- Prediction of stock price of day N is based on day N-60 to N-1
- **LSTM** by **dropout** from Keras

### Collabortive filtering based movie recommender

- An NLP and ML application developed in **Databricks** and **AWS**
- Data is preprocessed and cleaned using **PySpark** in **Databricks**
- The application is deployed on **AirFlow** and tasks are divided into four dags of **ETL, Model init, Train** and **Test**
- **RandomForest** machine learning algorithm is trained for prediction
- 85% test accuracy

## Publication

---

- Arian Fotouhi, Samuel Okegbile and Jun Cai. "Trust-enhanced blockchain-enabled framework for secure and privacy-preserving data sharing systems". In: *IEEE Future Networks World Forum*, September 2022 [Link]

## Certificates

---

- |   |       |
|---|-------|
| • Machine Learning A-Z™: Hands-On Python & R In Data Science [Link] | Udemy |
| • Deep Learning A-Z™: Hands-On Artificial Neural Networks [Link]    | Udemy |
| • The Complete SQL Bootcamp 2020: Go from Zero to Hero [Link]       | Udemy |
| • The Complete 2021 Web Development Bootcamp [Link]                 | Udemy |
| • Blockchain A-Z™: Learn How To Build Your First Blockchain [Link]  | Udemy |

## Awards and Honors

---

- |   |      |
|---|------|
| • Awarded Merit Base scholarship of Concordia University                  | 2021 |
| • Awarded Fellowship of Exceptional Talents of University of Tehran       | 2020 |
| • Awarded Fellowship of Exceptional Talents of Shahid Beheshti University | 2020 |