(647) 679-8032
torabian@yorku.ca
torabian.alireza@gmail.com

Alireza Torabian

Graduate Student / Experienced in Machine Learning

www.eecs.yorku.ca/ torabian/
1997alireza
alireza-torabian

Computer science graduate student at York University researching in the field of conformal prediction with a strong background in mathematics. Experienced in developing machine learning models and the theory behind them. Have done several projects in various machine learning areas, especially deep learning, mostly in Python using Tensorflow and Keras.

Education

York University *2021-2022 (Expected)*
M.Sc. in Computer Science, Advised by Ruth Urner, *GPA: A* *Toronto, Canada*

Amirkabir University of Technology (Tehran Polytechnic) *2015-2020*
B.Sc. in Computer (Software) Engineering, Advised by Saeedeh Momtazi, *GPA: 3.9/4 (18.25/20) (In the top 10%)* *Tehran, Iran*
Thesis: Design and Implementation of a Persian Automatic Question Answering System

Experience

York University *Jan. 2021 – Present*
Research Assistant *Toronto, Canada*
- In the filed of ***Conformal Prediction*.**

National University of Singapore, Data Privacy and Trustworthy Machine Learning Research Lab *Jul. 2019 – Sep. 2019*
Research Intern *Singapore*
- In ***Adversarial Machine Learning***, advised by Reza Shokri.
- Creating a black-box adversarial attack to fool face detection and face recognition models to impersonate anyone in **JavaScript Tensorflow**. The attack model has been tested using two different face recognition tools (report).

Diaalog *Jul. 2018 – Dec. 2018*
Research and Development Intern *Tehran, Iran*
- Developing a Persian question answering system based on a sequence-to-sequence model to generate answers according to the entrance questions in **Python Tensorflow**.

Amirkabir University of Technology, Cognitive Robotics Lab *Oct. 2016 – Sep. 2017*
Research Assistant *Tehran, Iran*
- Designing an autonomous exploration algorithm for robots.

Skills

Languages	**C++**, **Java**, **Python**, Go
Frameworks and Tools	**Tensorflow** (Python & JS), **Keras**, **Numpy**
Databases	**MySQL**, SPARQL, MongoDB
Web Programming	HTML, CSS, **JavaScript**, Express.js, PHP

Projects

Alternative Actor and Co-Star Suggestion Using a Graph Autoencoder Model *Apr. 2021*
- A graph autoencoder has been applied to an actor's network to map the actors to a latent space, using **Keras** in **Python**.
- Achieved 99.46% accuracy on link weight prediction task for weights between 0 and 1.
- An alternative actor is found by searching the latent space using a K-d tree, and a co-star is suggested based on the predicted weights in the autoencoder model's target network.

Persian Question Answering System *Aug. 2020*
- Generating answers for a question in Persian language based on a knowledge-base in **Python**.
- SVM and CNN classification models used to classify the question type achieved 96% accuracy and F1-score of 92.7%.

Optimization Coursework *Jul. 2019*
- Implementation of various constrained and unconstrained optimization algorithms.

Neural Dialogue System *Dec. 2018*
- Implementation of a Seq2Seq model with attention mechanism, using **Tensorflow** in **Python**.

Honors and Awards

York University Fellowship, C$62,500 for my master's studies 2021-2022
Second Place in the rescue simulation virtual robot league at RoboCup in Nagoya, Japan 2017
Ranked top 0.5% in nationwide Iranian university entrance exam among 180,000 participants 2015
Member of National Organization for Development of Exceptional Talents (NODET) 2011-2015