Parastoo FalakAflaki

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Education

Queen Mary University of London — London, UK
MSc in Big Data Science — 2021–2022

Shahid Beheshti University — Tehran, Iran
B.S. in Computer Engineering - GPA: 3.89/4.00 (17.98/20 — 2017–2021

Projects

- **Formality style transfer in persian text** — Thesis project
Under Supervision of Professor Mehrnoush Shamsfard — Spring 2021
  - Transferring text with colloquial language to formal language using transformers

- **Seq2Seq Generative Conversational Bot** — NLP lab, Shahid Beheshti University
Under Supervision of Professor Mehrnoush Shamsfard — August 2020
  - Implemented generative chatbot using keras with seq2seq model, Golve50d embedding and attention mechanism

- **Transformer Generative Conversational Bot** — NLP lab, Shahid Beheshti University
Under Supervision of Professor Mehrnoush Shamsfard — August 2020
  - Implemented generative chatbot using keras with Transformer Model and Persona dataset

- **Fake Comment Detection** — Rahnema College Entrance Project
Spring 2021
  - Detecting fake comments from real ones using data preprocessing techniques and different models

- **Live Chat Website** — Shahid Beheshti University
Winter 2020
  - Implemented a website for a data gathering contest using NodeJS(ExpressJS), MongoDB and Apollo Server(GraphQL) for Backend project and ReactJS and Apollo Client for Frontend project. The main aim of this website was to gather chat data for training a chat model. In this website people could register and chat with other users and get points. At last 5000 pair of Persian chat messages were gathered.

- **Generating Pokeman characters using GAN algorithms** — Self-project
March 2020
  - Implemented a generative neural network using WGAN-GP and Pokemon character's dataset

- **Predicting market share for Montreal local TV channels** — Shahid Beheshti University
Under supervision of Professor Hamed Malek — January 2020
  - Predicting market share for Montreal TV channels' data using scikit-learn, Pandas, Matplotlib and Seaborn

Experience

Machine Learning Intern — Rahnema College
Internship — April 2021 - June 2021

Completeing Machine Learning Engineer course and Implementing a web crawler detection system. The aim of the project was to recognize the web requests given to Sanjagh Website, are crawlers or not. Finally, for taking advantage of this work, we had to create and develop a web application for production phase. As the company's dataset, consisting its website's logs, was unlabled, we trained unsupervised models on the dataset. As baseline we chose Isolation Forest and Local outlier factor, and as main model we implemeted an Auto encoder model.

Researcher — NLP lab, Shahid Beheshti University
Under supervision of Professor Mehrnoush Shamsfard — August 2020 - Auguest 2021

Implemented a system for formality style transfer in persian text. I implemented 4 different models and compared their performances. A Seq2Seq model, a Bert2Bert model using Pars-BERT, a back-translation based model using MT5 (a multilingual variant of T5 transformer) and a rule-based model. Eventually the implemented Bert2Bert model outperformed all the other models as well as hazm's the informal-to-formal converter.

Honors and Awards

- Ranked **8th** in "ICPC Regional Tehran 2019" — 2019
- Ranked **22nd** in "ACM-ICPC Regional Tehran 2018" — 2018

Teaching

- **Artificial Intelligence** at Shahid Beheshti University — Fall 2019 - Winter 2021
  Head TA
  Professor Mehrnoush Shamsfard
- **Signal and Systems** at Shahid Beheshti University — Spring 2020
  Tutorial and Assignment grading
  Professor Armin Salimi-Badr
- **Advanced Programming** at Shahid Beheshti University — Fall 2018 , Spring 2019
  Tutorial and Assignment grading
  Professor Mojtaba Vahidi-asl

Skills

- **Programming Languages:**
  Python, Java, JavaScript, C#, C/C++, MATLAB, x86 Assembly, SQL
- **Packages: :**
  NLTK, Numpy, Pytorch, Ignite, Keras, Tensorflow, Pandas, Matplotlib, Seaborn, Scikit-Learn, spaCy,

Languages

- **English:** Proficient
  - **IELTS:** Overall Score **8**
- **Persian:** Native
- **German:** Basic