

SAMIRA BULLE

3A Mathematical Physics | (519) 987-3235 | sabulle@edu.uwaterloo.ca | [github](#)

WORK EXPERIENCE

Software Engineer

SEP 2017 - DEC 2017

ACHIEVERS

- Developed a system to recommend similar items when browsing an item's page in the Achievers' rewards shop
- Utilized content-based filtering to compare pairs of items in order to determine suitable recommendations
- Computed similarity scores between 18000+ product descriptions by employing the TF-IDF algorithm
- Built a REST API using Flask to serve top recommendations to the main platform

Data Scientist

JAN 2017 - APR 2017

DEFENCE RESEARCH AND DEVELOPMENT CANADA

- Introduced 21 new semantic features to improve prediction of Tweet popularity
- Tuned a random forest classifier to increase the accuracy of popularity prediction on unseen tweets from 91.7% to 98.6%
- Automated the feature extraction process by using NLP tools to run sentiment analysis on thousands of tweets
- Detailed findings in a scientific paper which is being reviewed for publication

Research Assistant

MAY 2016 - AUG 2016

UNIVERSITY OF WINDSOR

- Developed a dynamic orbital simulation in C using numerical methods
- Generated radius vs. theta plots of various orbits using matplotlib and SciPy
- Analysed data sets and compared trends to quantum mechanical models of orbits

PROJECTS

Rap Generator

PYTHON, KERAS

- Trained an LSTM RNN using rap songs as input to generate new song lyrics
- Formed words by learning sequences of characters from the input and used them to predict probable chains of letters

TECHNICAL SKILLS

Python: NumPy, SciPy, scikit-learn, pandas, matplotlib

Machine Learning: classification, clustering, regression, feature engineering, natural language processing, Weka

Software: C, PHP, Latex, Flask, SQL

EDUCATION

Candidate for Bachelor of Science in Mathematical Physics

SEP 2015 - APR 2020

UNIVERSITY OF WATERLOO