Zhixin Xiong

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EDUCATION

BA. Honors Mathematics and Computer Science　　　　　　　Montreal, QC | Sept 2019 – May 2024
MCGILL UNIVERSITY
 Course Assistant : Assisted the teaching of Honors Analysis1, and gave feedback to students
Math Tutor : Tutored students at McGill Math helpdesk in a wide range of subjects such as statistics, linear algebra, algebra, and calculus.

WORK EXPERIENCE

CHINA POST | SOFTWARE DEVELOPMENT ENGINEER INTERN　　　Nanchang, China | May 2020 – Aug 2020
- Built websites that provide delivery service to local people with **Java**, **SpringBoot**, and **MySQL** tools.
- Implemented Login features for different account types such as normal users and administrators using **Java** and store data in **MySql**, which assigned a specific role to each user, and ensured only authorized employees have access to the administration data .

UNIVERSITY OF MCGILL | RESEARCH ASSISTANT (RA)　　　　Montreal, QC | June 2022- Aug 2022
- Collaborated with a team in Mila (Mila - Quebec AI Institute) to conduct research in the field of Formal Verification to prove the correctness of computer programs.
- Implemented an enumerating approach using Context Free Grammar (CFG) to generate candidate programs for CHC problems with **Python** and **NLTK**.
- Investigated Linear Arbitrary method to generate programs from data, Read papers from top venues and conducted experiments with this method and other state-of-the-art tools such as Spacer and Gspacer with **Z3**, pysmt

PROJECTS

TEXT CLASSIFICATION WITH PRE-TRAINED WORD EMBEDDINGS ↗　　　SEPT 2021- DEC 2021
Conducted specific tasks such as spam detection for messages, sentiments analysis for tweets reviews with famous **Word2vec**, **Glove**, **LSTM-based** classifier and cutting-edge models such as **BERT** using **Python**, **Pytorch**, **Scikit**. Improved experiment results by processing the data using **SpaCy** and **NLTK**. Explored the effects of different embeddings layers on different datasets through **trial-and-error** and fine-tuning

FLEXIBOOK RESERVATION SYSTEM ↗　　　　　　　　　　SEPT 2020- DEC 2020
Built a FlexiBook application for micro-enterprises to provide reservation service for their customers using **JAVA**, **cucumber plugin**, **java swing**, **umple**, and state machine tools. Implemented features for the appointment booking process. Leveraged knowledge in module design engineering, UML diagrams, and **design patterns**.

MACHINE LEARNING MODELS IMPLEMENTATIONS ↗　　　　　　JAN 2021- APR 2021
Conducted sentiment analysis by building logistic regression model from scratch and implemented both K-means and a Gaussian mixture model (GMM) from scratch to cluster using **python**, **NumPy**, **pandas**.

AM I OK ↗　　　　　　　　　　　　　　　　　　　OCT 2022
Helped building the backend by using **Python**, **flask**, **Cohere.ai API** to generate the answers to the patient's question with different levels of complexity and depth depending on the patient's preference. This project won two prizes at Mais Hackthon.

SKILLS

Languages: Java, C/C++, Python, C#, Bash, SQL, R language, Ocaml
Web Development: JavaScript, React, Node.js, MongoDB, SpringBoot, MySQL, HTML/CSS
Machine Learning: Matpotlib, Pytorch, Scikit, NLTK, NumPy

AWARDS AND HONORS

Mila - Quebec AI Institute Scholarship Sept.2022　　　McGill-UQAC French Immersion Program Award May.2022
Second prize in China High School Biology Olympiad 2017　　　First prize in Jiangxi High School Biology Olympiad 2017
First prize in Nanchang High School Chemistry Olympiad 2016