FELIX ZHOU

Engineer & Mathemagician working with tranformation, analysis, and storage of structured and unstructured data

@ felix990302@yahoo.ca ☎ 226-898-5226 ✎ zhou-felix.me in linkedin.com/in/felix990302 ⚫ github.com/felix990302

EXPERIENCE

Software Engineering Intern
Encircle Inc.

📅 April 2018 – August 2018 📍 Kitchener, ON

- Developed features in **Tornado** and **React** to improve Encircle's web app
- Introduced **WebSockets** and **Observables** to load and update data asynchonously in real-time, improving efficiency by **5x**
- Implemented email feature to send reports through **Model-Daemon Method**, removing need to exit app in user workflow
- Improved user experience with **functional** React Components, reducing re-rendering for smoother user experience

PROJECTS

VM
CS246E: Objected Oriented Programming (Advanced)

📅 November 2018

- Designed and actualized a **C++14** clone of the command-line text editor
- Followed **Object-Oriented Principles** and **Design Patterns** like **Decorator** and **Visitor** to produce modular and extensible code
- Implemented undos and redos through the **Command** pattern to minimize space complexity

Goose or Not
Hack the North

📅 September 2018

- Created an **Online Learning** application which recognizes geese
- Designed a **PostgreSQL** database with **ORM** to improve extensibility
- Leveraged **Decision Trees** and **Boosting** for classification with 90% accuracy
- Deployed several **Heroku** instances with **PgBouncer** and **NGINX** for load balancing and increased transaction throughput

Inspired by Silicon Valley Season 4 Episode 4

NNLib

📅 April 2018 – September 2018

- Created a light-weight Neural Network library using **numpy**
- Included **L1, L2 Regularization** and **Dropout** to combat variance
- Implemented **back-substitution** and **gradient descent** through Chain Rule
- Abided by **PyPI** package structure and conventions including full **pytest** suite to improve compatibility with other Python packages

Faustin
YHacks

📅 December 2017

- Provided real-time suggestions in reaction to the emotion in speech
- Combined a **Deep Neural Network**, **IBM Watson** and **Volkaturi API** to analyze tonality and semantics to detect outliers due to factors such as sarcasm
- Classified speech in one of five emotional classes with 80% Accuracy
- Launched the application via **AWS** on a **CentOS** server

PROFICIENCIES

C	●●●●●
Python	●●●●●
C++	●●●●○
TypeScript	●●●●○
Scheme	●●●●○
Java	●●●○○

TensorFlow · XGBoose · Keras

PostresSQL · SQLAlchemy · NodeJS

React · React-Native · Flask

Linux · Bash · Git · Phabricator

EDUCATION

Computer Science
Artifical Intelligence Option
Combinatorics and Optimization
University of Waterloo

📅 Sept 2017 – August 2022

4.00 Faculty GPA
Dean's Honour List

LANGUAGES

English	●●●●●
Mandarin	●●●●○
French	●●●○○

AWARDS

President's Entrace Scholarship
University of Waterloo

📅 Sept 2017

for high school entrance average of 97%

First Place - Chopin
Burnaby Clef Festival

📅 June 2015

for piano performance of Polonaise in A major