Allen Peng Lu

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Self motivated computing science student skilled in building and maintaining mobile applications with external libraries, databases, and API's. Well-versed in various algorithm design paradigms using discrete mathematics. Experienced in Object-Oriented design, analysis, and prototyping in teams of 3-6 developers to exercise creativity, initiative, and synergy.

Core Competencies

- Python
- Python SQLite3/SQL
- Java
- C/C++
- Database Tier designs
- SQL/SQLite 3

Education

- Computing Science, 3rd Year, University of Alberta (Sept 2016 – Scheduled for April 2021)

Personal Projects

Git handle: ApluUalberta

Mood-Tracker Android Studio Group Project (September 2019 – December 2019)

Glo – Android Mobile App

Github Link: https://github.com/CMPUT301F19T03/GroupProject1

- Programmed in Java, tracks a user's emotional state and allows them to follow friends
- A collaboration of 6 group members using Github pull requests and SCRUM to encourage collaboration
- Google Maps and Firestore API to keep track of user data (moods, times, dates, reasons, and location)
- Extensive Design revisioning and development of front-end user interface and testing
- Weekly scrum meetings with agile principles in mind, remote communication with discord, and extensive UML re-versioning
- Required a presentation demo in front of 50 non-technical audience members

Crime Statistics Database Program (March 2019 – April 2019)

Crime Statistics UI - Edmonton Open Data Initiative

Github Link: https://github.com/ApluUalberta/Crime-Statistics-Database-Program

- Simple Command Line Interface that allows for 4 complex database queries on a given database
- Embedded SQLITE3 Queries in Python to create a simple UI
- Imported Pandas and Folium Libraries to plot queried data onto graphs
- Menu Entry runs 1 of 4 Queries depending on user input

Map Reduce Multithreading in C++ (October 2019 – November 2019)

Optimization of Map Reduce – Threadpool data structure implementation

Github Link: https://github.com/ApluUalberta/CMPUT379_A_2

- Takes files and maps them to threadpool execution sequences – Outputs the number of times words appear
- Prioritizes jobs using a job's size in the priority queue
- Required perfect timing of unlocking and locking the mutex to isolate a thread execution on a critical section to avoid race conditions

Hobbies

- Powerlifting, Drone Photography, RC Vehicle Modification, E-Commerce Entrepreneurship