**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**

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| * Python | * Java | * Database Tier designs |
| * Python SQLite3/SQL | * C/C++ | * 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