**Allen Peng Lu**

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Self-motivated computer science student skilled in building and maintaining mobile applications while meeting time constraints. Well-versed in various algorithm design paradigms using discrete mathematics. Experienced in Object-Oriented design, analysis, and prototyping in teams of 3-6 developers.

**Core Competencies**

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| * Python | * Java | * Android Studio |
| * Python SQLite3 | * C/C++ | * Mips Assembly |

**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 moods, times, dates, reasons, and location
  + Extensive UI unit testing for proper database pulling, UI navigation, and feature implementation
* Extensive Revisioning of App Interfaces to provide an eye-pleasing interface with non-functional requirements
* Weekly team meetings, remote communication with discord, and extensive UML re-versioning
  + Time used for optimizing team productivity, monitoring progress, and addressing design flaws.

**Linux Shell in C++ (September 2019 – October 2019)**

Dragonshell – Linux Shell

Github Link: <https://github.com/ApluUalberta/Dragonshell>

* C++ program that uses Linux system calls to create a terminal shell when running
  + Applied a deep understanding of accessing kernel mode with system calls to re-implement basic terminal commands.
* Supports CD, PWD, A2PATH, object file execution, file output redirect, background process execution, and signal interrupts

**Arduino Powerlifting Lock Box (December 2019 – Present)**

Chalk Bowl Locking Mechanism – Arduino Uno

* Programmed Arduino Project to make a Weightlifting Chalk bowl lockable
* 4-digit keypad verification password Solenoid Door lock mechanism with a 6V Relay
* Secured in a locked Plywood container, attached to a hinge and a lid.
* Satisfying customer concerns by continuous prototype iterations to address design criticism and flaws

**Hobbies**

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