# 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

- Python
- Python SQLite3
- Java
- C/C++
- Android Studio
- 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