

4 Appendix: Environment Setup on Robots

Prior to the model deployment, some preparations on robots are required to setup the hardware and software environments. First, the robot needs to be switched to the *developer* mode, as shown in Figure 5.

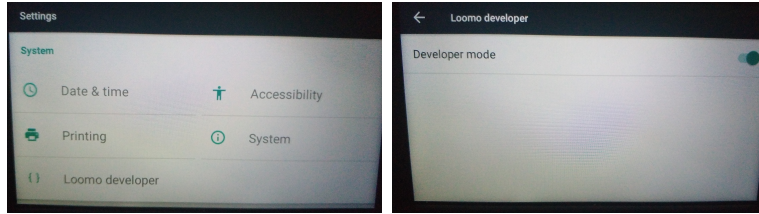


Figure 5: Loomo Developer Mode

Furthermore, an android app designed for this project needs to be installed. The source code can be found at <https://github.com/segway-robotics/loomo-algodev>. It is recommended to use Android Studio 3.1.4. to build and install the app.

Before compiling the source code, make sure that the local paths to ndk and sdk are added in the *local.properties* file under *gradle*, as shown in Figure 6.

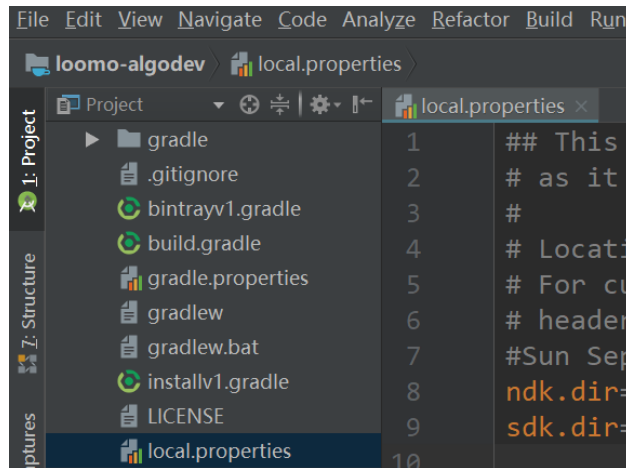


Figure 6: Gradle settings

To build the source code, open the file *AlgoFollow.cpp*, and build the module as shown in Figure 7.

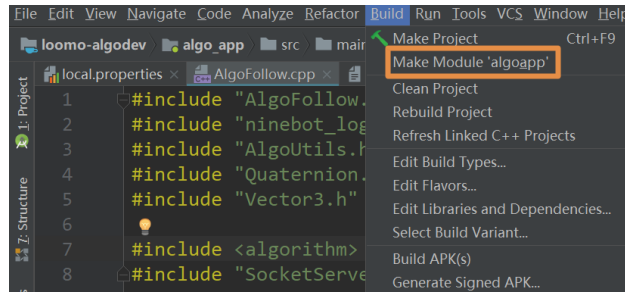


Figure 7: Build project

Once the source code is built successfully, we can now install it to the robot, as shown in Figure 8. Note that our laptop needs to be connected to the robot through WiFi, as described in Section 3.3.

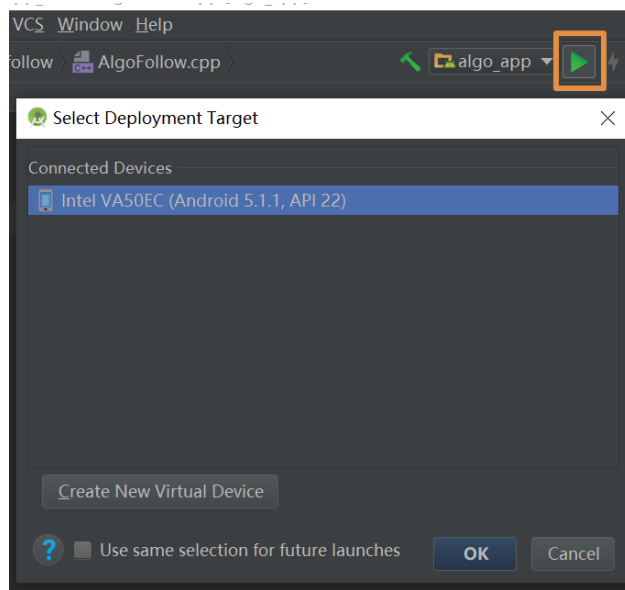


Figure 8: Install app