5.1   Structure

The software for the project has been written to form a very modular structure with separate "handlers" being written/developed for different functions of the greater application. There are some exceptions where existing libraries and servers were used, but these are referenced in the relevant sections later in this chapter.

Figure 5.1 below shows the modular structure that was implemented for the control of the Raspberry Pi 3B+ single-board computer
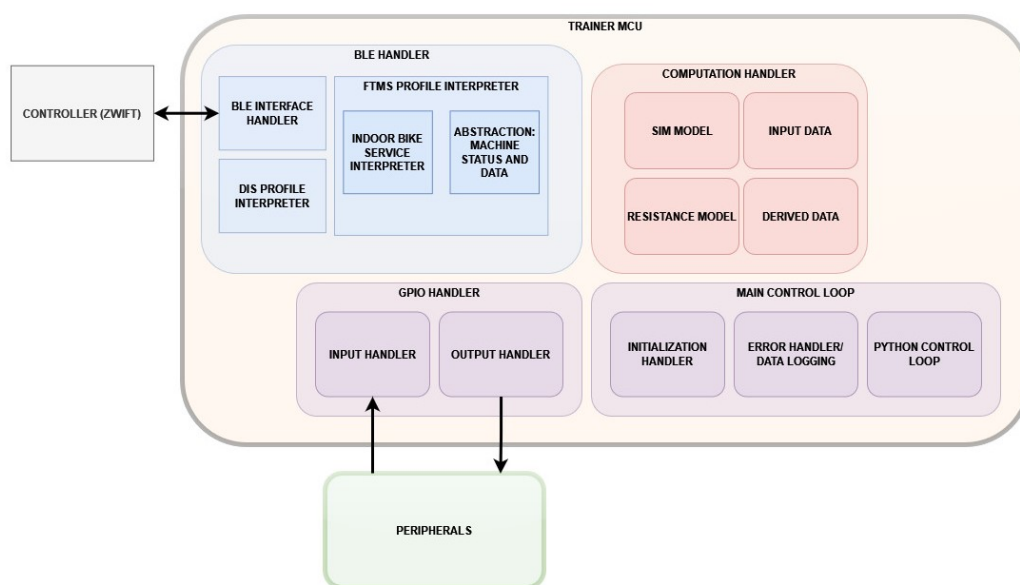

Figure 5.1: Overview of General Software Structure

5.2   BLE Handler

The BLE handler is responsible for all of the Bluetooth communication protocols, and has to strictly conform to the BLE specifications in order to ensure compatibility with common devices. The handler consists of a few different services that in tern manage some service or function within the greater protocol.

The BLE protocol was designed to be used with various layers of abstraction