SparkFun ICM20948 IMU

We use the SparkFun ICM-20948 9DoF IMU as our Body Frame **IMU**.

SparkFun provides a Hookup Guide for the SparkFun ICM20948 9DoF IMU.

Arduino IDE

We use the SparkFun ICM20948 Library.

Open Arduino IDE
$: sudo arduino
> Select Sketch>Include Library>Manage Libraries…
> Select **Sparkfun 9DoF IMU Breakout – IMC 20948 – Arduino Library**
> Click **1.2.5** Install
$: sudo chmod -R +666 /opt/SparkFun_RedBoard_Turbo

An already downloaded copy of the SparkFun ICM20948 library (used by installation script and Dockerfile) can be found here:
sw/SparkFun_RedBoard_Turbo/SparkFun_ICM20948_IMU/**SparkFun_ICM-20948_ArduinoLibrary-master.zip**

The library is installed under
/opt/SparkFun_RedBoard_Turbo/Arduino/libraries/**SparkFun_9DoF_IMU_Breakout_-_ICM_20948_-_Arduino_Library**.

Read IMU

We communicate with the SparkFun ICM20948 IMU over **I2C** using **address 0x69**.

Read IMU
$: sudo cp -r sw/SparkFun_RedBoard_Turbo/SparkFun_ICM20948_IMU/**read_imu** /opt/SparkFun_RedBoard_Turbo/Arduino
$: sudo chmod -R +666 /opt/SparkFun_RedBoard_Turbo

Arduino IDE
$: arduino
> File>Sketchbook>**read_imu**
> Click Serial Monitor icon
> Select 115200 baud
> Click Upload icon (until flash is successful)

SparkFun ICM20948 IMU
Linear Acceleration [mg]: -6.35/48.83/1022.95, Angular Rate [dps]: 1.69/-2.73/0.75, Magnetic Field [uT]: 5.70/14.55/15.90, Temperature [C]: 29.47

Script

Run as part of the Sensor Suite installation script
sw/NVIDIA_Jetson_Xavier_NX/Scripts$ bash **install-7-Sensor_Suite.sh**

Dockerfile

Part of the Sensor Suite Dockerfile
sw/NVIDIA_Jetson_Xavier_NX/Docker/**Dockerfile-7-Sensor_Suite**