The artifact that I chose is the raspberry pi weather station. It was created as part of my final project for my Emerging Systems Architecture and Technology class in May of 2020. I selected this item because I have a passion for robotics. In my opinion, microcontrollers, such as the RPi, are a great start to robotics. The specific components of the artifact that showcase my skills and abilities in software development are incorporating sensors to the RPi for data collection. I love the fact that I can create data collection software with some electronics and code. The artifact was completely reimagined. I wanted to use a sensor that measured barometric pressure along with temperature and humidity. So I decided to use the BME280 sensor instead of the DHT sensor which is temperature and humidity only. I also wanted to add an anemometer, which measures wind speed, so I decided to use IR reflectance sensor.

I believe I did meet the course objectives that I planned to meet with this enhancement in module one. The submitted python file is the update to my outcome-coverage plan. During the process of enhancing and modifying my weather station artifact, I came across many challenges. One for instance was using the IR reflectance sensor to calculate the wind speed. Another challenge was soldering, which I was not great at but have improved on. I learned a lot during this project. First off, I learned how to correctly solder, by watching several videos on it and practicing with scrap pieces of wire. Secondly, I learned that mistakes and unexpected errors are inevitable. Thirdly, solutions are found only if you clear your mind and have patience.