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| --- |
| import serial |
|  | import time |
|  | import csv |
|  | import numpy as np |
|  | import matplotlib.pyplot as plt |
|  | ser = serial.Serial('/COM6',9600) |
|  | ser\_bytes = ser.readline(10) |
|  | print (ser\_bytes) |
|  | ser.flushInput() |
|  | while True: |
|  | try: |
|  | ser\_bytes = ser.readline() |
|  | decoded\_bytes = float(ser\_bytes[0:len(ser\_bytes)-2].decode("utf-8")) |
|  | print(decoded\_bytes) |
|  | temp = float(decoded\_bytes(1:3)) |
|  | turb = float(decoded\_bytes(4:6)) |
|  | pH = float(decoded\_bytes(6:8)) |
|  | with open("test\_data.csv","a") as f: |
|  | writer = csv.writer(f,delimiter=",") |
|  | writer.writerow([time.time(),decoded\_bytes]) |
|  | except: |
|  | print("Keyboard Interrupt") |
|  | ser.close() |
|  | break() |
|  | t = np.arange(0.0, 2.0, 0.01) |
|  | s = 1 + np.sin(2\*np.pi\*t) |
|  | plt.plot(t, s) |
|  | plt.xlabel('time (s)') |
|  | plt.ylabel('Celsisus (C)') |
|  | plt.title('Temperature') |
|  | plt.grid(True) |
|  | plt.savefig("Temperature.png") |
|  | plt.show() |
|  | Serial.begin(9600); |
|  | sensors.begin(); |
|  | int sensorValue = analogRead(A1); |
|  | voltage = sensorValue \* (5.0 / 1024.0); |
|  | } |
|  | void loop(void) |
|  | { |
|  | sensors.requestTemperatures(); |
|  | Celcius=sensors.getTempCByIndex(0); |
|  | Fahrenheit=sensors.toFahrenheit(Celcius); |
|  | for(int i=0;i<10;i++) |
|  | { |
|  | buf[i]=analogRead(analogInPin); |
|  | delay(10); |
|  | } |
|  | for(int i=0;i<9;i++) |
|  | { |
|  | for(int j=i+1;j<10;j++) |
|  | { |
|  | if(buf[i]>buf[j]) |
|  | { |
|  | temp=buf[i]; |
|  | buf[i]=buf[j]; |
|  | buf[j]=temp; |
|  | } |
|  | n = 256 |
|  | X = np.linspace(-np.pi, np.pi, 256, endpoint=True) |
|  | C,S = np.cos(X), np.sin(X) |
|  | plt.plot(X, C) |
|  | plt.plot(X,S) |
|  | plt.show() |
|  | print ("Visualization of real time sensor Data.") |
|  | print("/n") |
|  | while True: |
|  | try: |
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