case

February 23, 2021

[56]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt

df = pd.read_csv("1602245833-2715-NAO7856.txt")
period = 2.715
samples = len(df)

n = np.linspace(0,period,samples)
t = n*2.715/samples

accel_x = df['x']
accel_y = df['y']
accel_z = df['z']

freq = np.fft.fftfreq(samples)
mascara = freq > 0

fft_x0 = np.fft.fft(accel_x)
fft_x = 2*np.abs(fft_x0/samples)

plt.figure(1)
plt.title('accel_x')
plt.plot(t,accel_x)

plt.figure(2)
plt.title('fft_x')
plt.plot(freq[mascara],fft_x[mascara])

fft_y0 = np.fft.fft(accel_y)
fft_y = 2*np.abs(fft_y0/samples)

plt.figure(3)
plt.title('accel_y')
plt.plot(t,accel_y)

plt.figure(4)
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plt.title('fft_y')
plt.plot(freq[mascara],fft_y[mascara])

fft_z0 = np.fft.fft(accel_z)
fft_z = 2*np.abs(fft_z0/samples)

plt.figure(5)
plt.title('accel_y')
plt.plot(t,accel_x)

plt.figure(6)
plt.title('fft_z')
plt.plot(freq[mascara],fft_z[mascara])

plt.show()
```
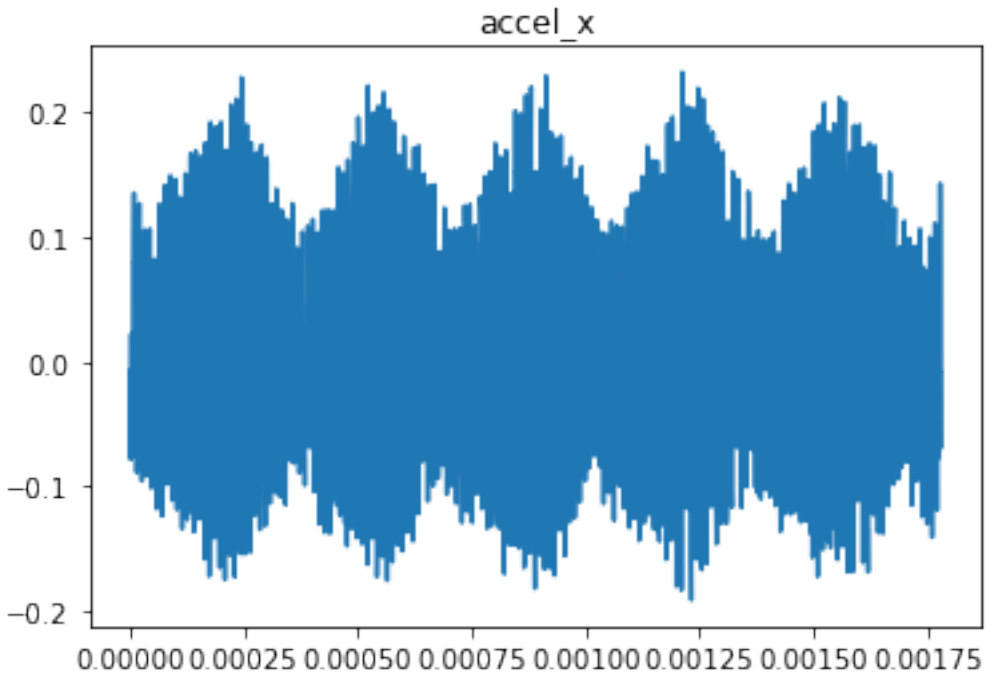
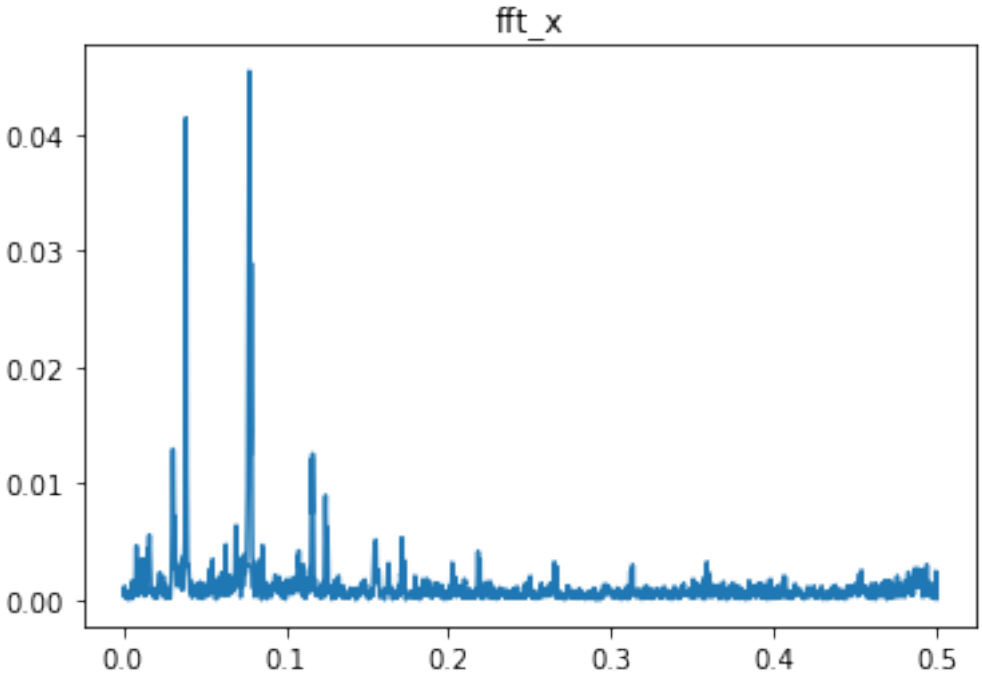
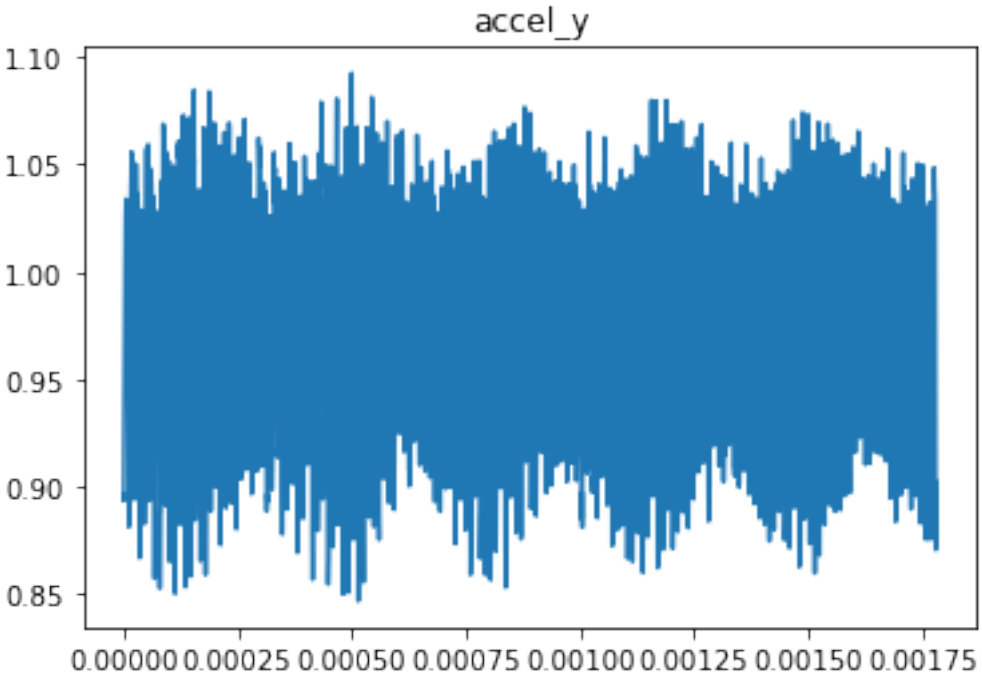
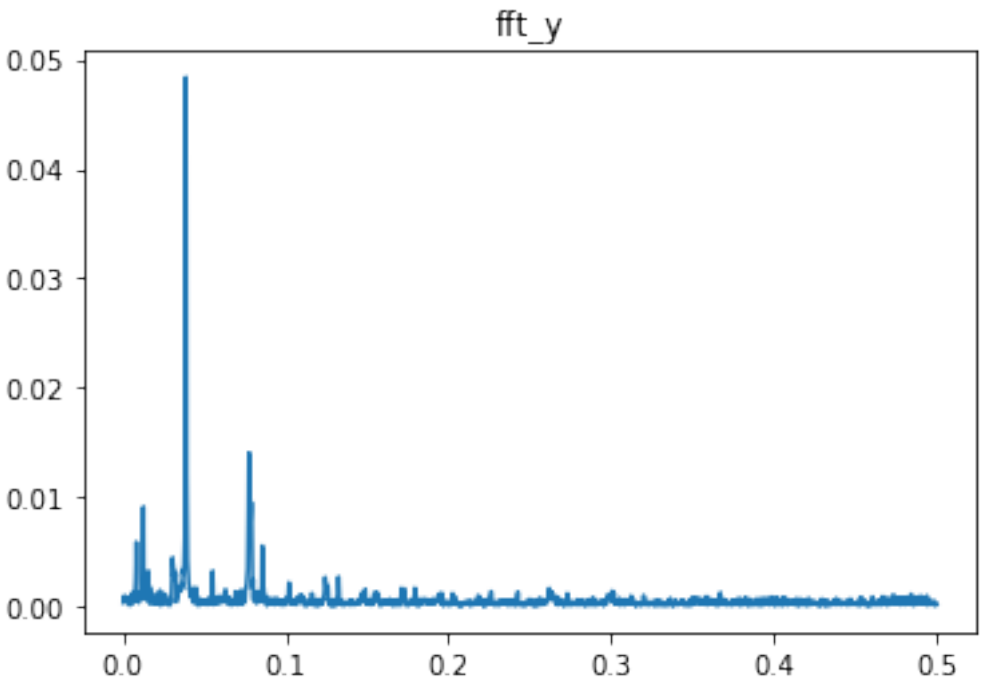
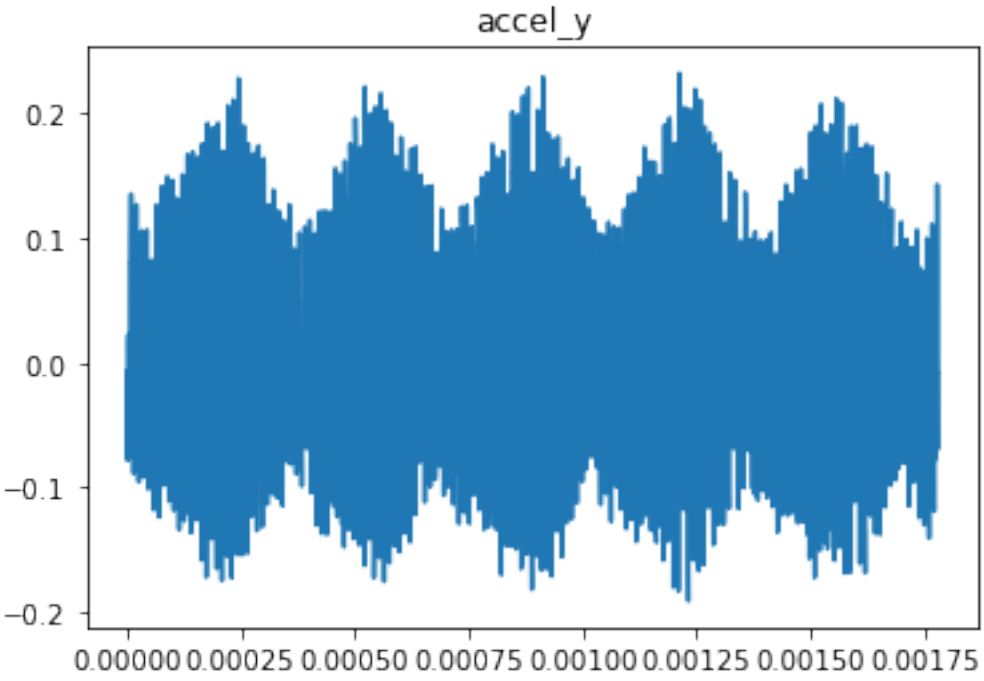
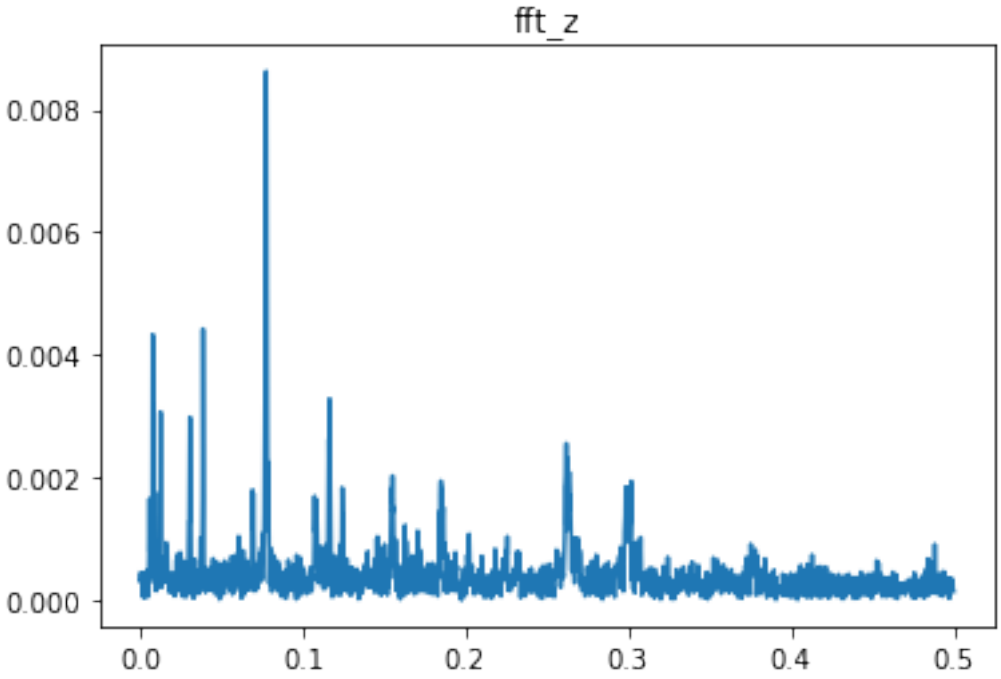




fft_x
0.04
0.03
0.02
0.01
0.00
0.0
0.1
0.2
0.3
0.4
0.5


accel_y
1.10
1.05
1.00
0.95
0.90
0.85
0.00000
0.00025
0.00050
0.00075
0.00100
0.00125
0.00150
0.00175


fft_y
0.05
0.04
0.03
0.02
0.01
0.00
0.0
0.1
0.2
0.3
0.4
0.5


accel_y
0.2
0.1
0.0
−0.1
−0.2
0.00000
0.00025
0.00050
0.00075
0.00100
0.00125
0.00150
0.00175


fft_z
0.008
0.006
0.004
0.002
0.000
0.0
0.1
0.2
0.3
0.4
0.5

[ ]: