# Good day!

For our internship program we are looking for students who like data, like to find problems and critically analyze and solve them. We like our team members to have multifaceted personalities

,which means not only should you be a code champ, but we expect you to come with soft skills like good communications, team spirit and critical thinking.

# You have to be: -

1. Good at Python, Statistics, Data visualization, Analytics (a web framework like Django or Flask is a plus)
2. Be a quick learner and like solving problems. Critical thinking and ability to read long instructions are going to come in handy.
3. Be a team player
4. A good communicator
5. Have a good attitude and we will teach you code and data over the internship.

# To screen the right candidates, we have a little challenge for you. It is in three steps and should take about half an hour to 2 hours depending on your skillsets and google capabilities. NOTE: We prefer you do not use AI generated code.

**Assignment: Data visualization and interpretation Setup**

1. Use the attached Excel sheet for your assignment
2. The data contains two columns Voltage & Timestamp.

# Data visualization on Excel

1. **Use excels to plot this data (voltage on y axis and timestamp on x axis)**

# Create a trendline on the Voltage data (your chart will look like figure 1).

1. Write 5 sentences describing that data, what do you understand about it and how you interpret it

# Python Data visualization and manipulation

1. Easy problem: Import this data into a Python Data frame
   1. Plot the same chart as you did in excel using your favorite plotting library
   2. create a 5-day moving average on the plot
   3. Use python Find local peaks and lows in the data. tabulate them
   4. Find out every instance the Voltage went below 20 and tabulate it
2. Find every instance where the downward slope accelerates in each downward cycle and print the timestamp
3. Host this python code on your favorite hosting server.  
   Note: Don’t use streamlit or any similar hosting services which helps with pre built tools.
4. Add all the charts and all the other task’s charts in one place in a webapp and host it publicly on the web using any free hosting services.

# Annexure:

**1. What your python chart should look like FIGURE 1:**

