- When data logging is enabled, it records the position, force, and time into a CSV file for later analysis.

4. User Interface (UI):

The GUI allows the user to interact with the motor control system through several components:

- **Buttons**:
  - Controls for motor calibration, turning the motor on/off, clearing errors, and setting weight.
- **Input Fields**:
  - Users can input their desired force (in kilograms), and configure sine wave modulation settings such as:
    - Frequency
    - Minimum and maximum force.
- **Modulation Options**:
  - Checkboxes allow users to toggle between time-based or position-based sine wave modulation of force.

5. Main Loop:

- The primary loop continuously checks if the GUI is running and performs several operations:
  - Updates the graphs with the motor's current position and applied force.
  - If logging is active, it records data into a CSV file.
  - Applies the sine modulation when the respective checkbox (time-based) is checked.

6. Key Functions:

- **Motor Control**:
  - **calibrate()**: Calibrates the ODrive motor.
  - **turn_on()**: Toggles between enabling and disabling the motor.
  - **set_force_kg(kg)**: Sets the motor force to the specified value in kilograms.
  - **move_to(position)**: Moves the motor to the desired position.
  - **get_current_position()**: Retrieves and returns the motor's current position.
- **Graph and Data Updates**:
  - **update_graphs()**: Updates the plots with the latest motor position and applied force data.