



# WeatherFootfall

DAQ Project

# Team Member

**6510545276 Kantapon Hemmadhun**


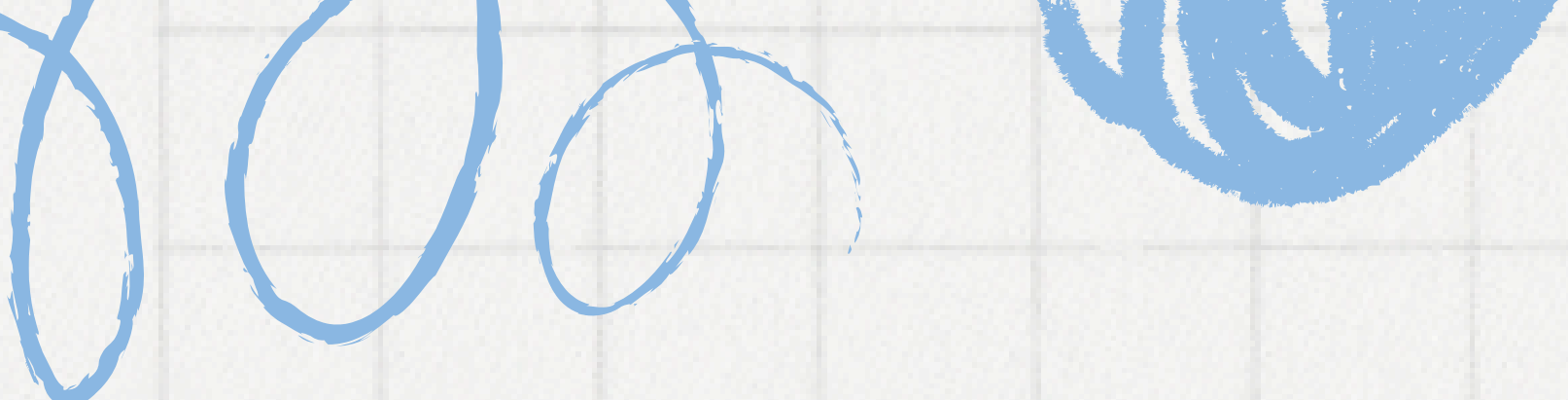
**6510545497 Tanapoom Srikaewkheaw**



# Overview

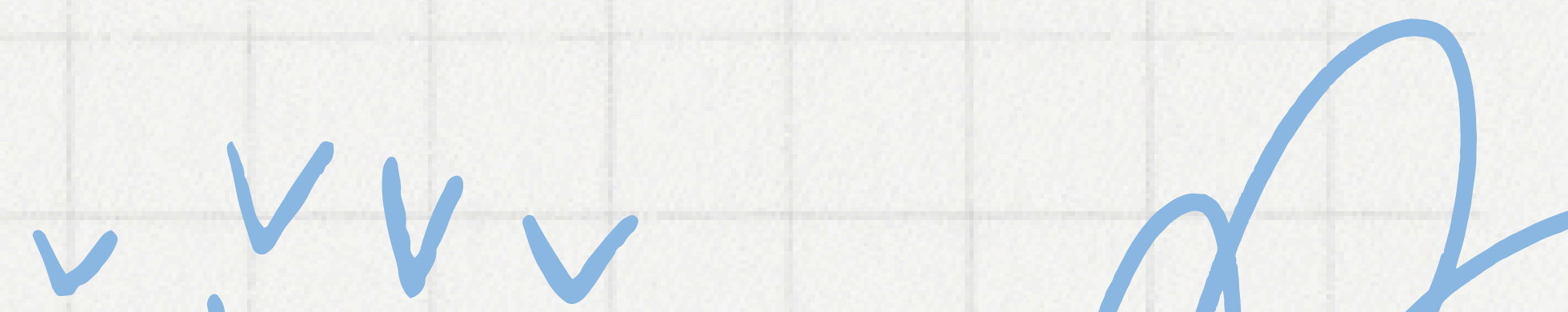
WeatherFootfall is a project aimed at studying the impact of weather conditions on human activity by analyzing in a specific location, such as a university campus, over time. By correlating weather data with visitor counts, the project seeks to understand how factors like rainfall and temperature influence the number of people visiting the university on a given day.





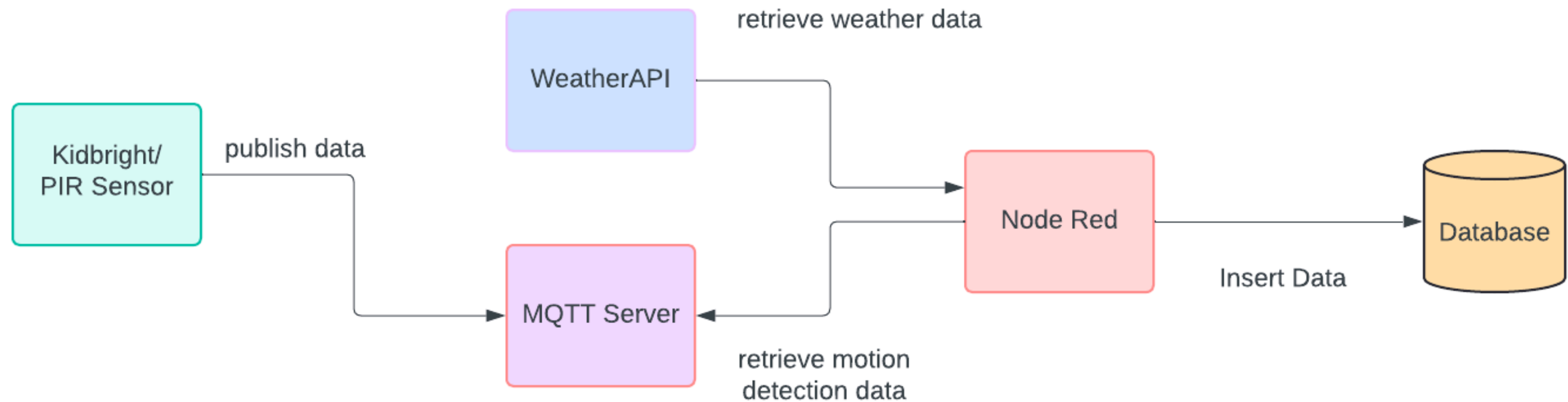
# Background & Motivation

WeatherFootfall project involves recognizing the significance of weather on human behavior and activity patterns, especially in outdoor environments like university campuses. Factors such as temperature and humidity can influence people's decisions to visit certain areas, attend events, or engage in outdoor activities. By integrating weather data with footfall tracking, the project aims to uncover how these weather conditions impact campus foot traffic, aiding in better resource allocation, event planning, and overall campus management.



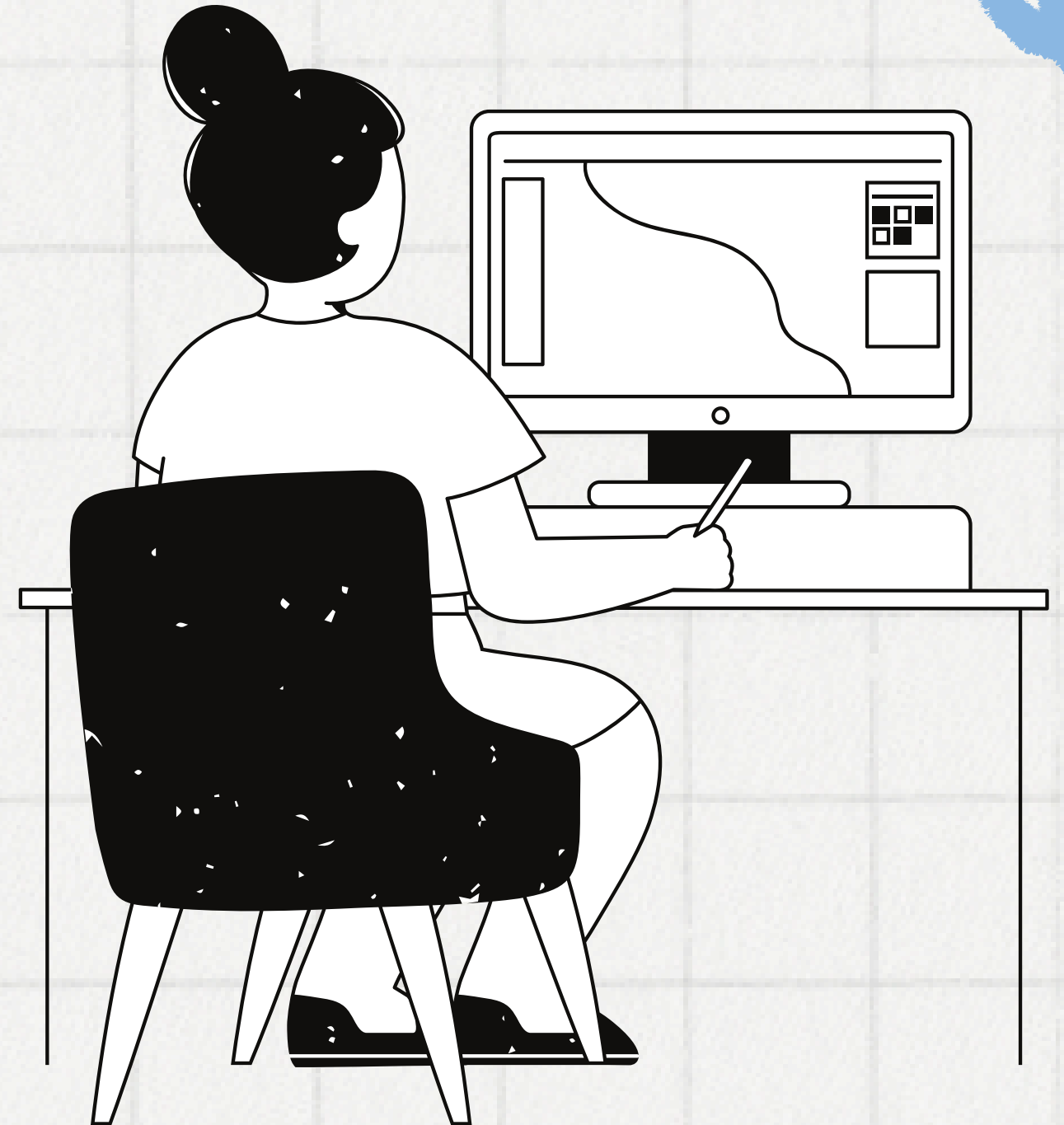


# Overall Architecture



# Primary Data Source

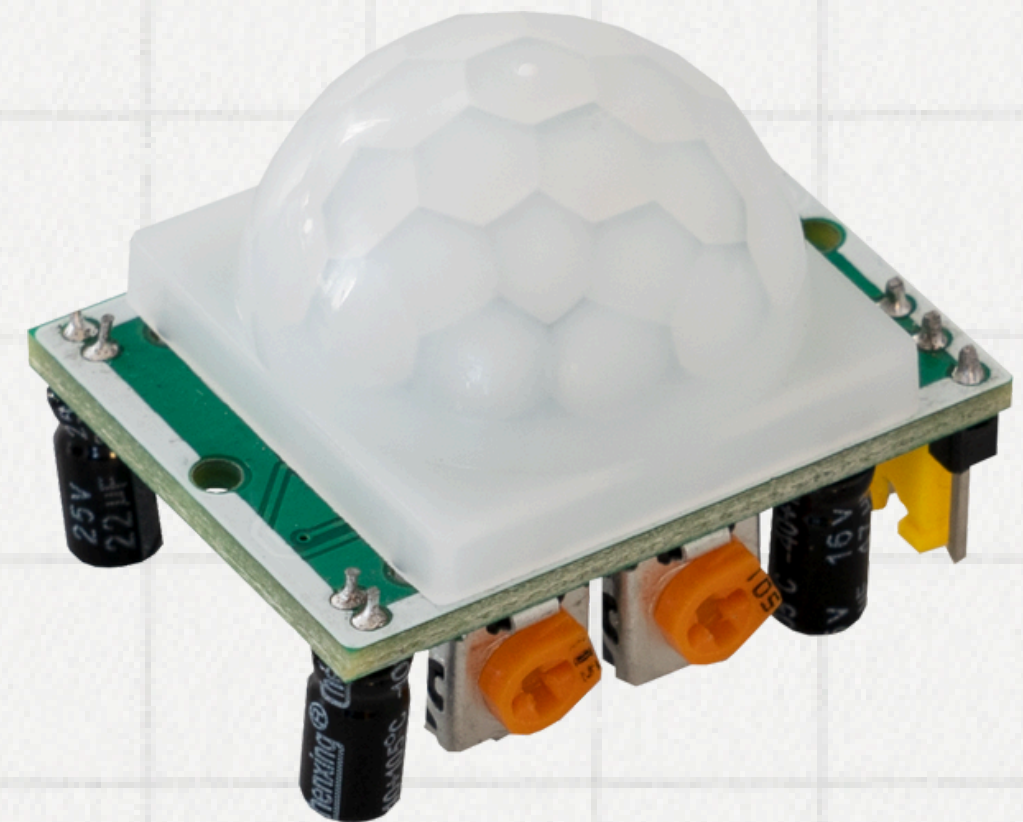
The primary data source for the WeatherFootfall project, which tracks the amount of persons entering and exiting the university campus via automatic door counters, turnstiles, or manual counting at access points.



# Sensors

## PIR Sensor (PASSIVE INFRARED MOTION SENSOR )

PIR sensors allow to sense motion, almost always used to detect whether a human has moved in or out of the sensors range.















# Data Collection Schema



← Server: db:3306 » Database: group03 » Table: motion





























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[Table structure](#) [Relation view](#)

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>id</b> 	int			No	None		AUTO_INCREMENT	 <a href="#">Change</a>  <a href="#">Drop</a> <a href="#">More</a>
<input type="checkbox"/>	2	<b>ts</b> 	datetime			No	CURRENT_TIMESTAMP		DEFAULT_GENERATED	 <a href="#">Change</a>  <a href="#">Drop</a> <a href="#">More</a>
<input type="checkbox"/>	3	<b>lat</b>	float			No	None			 <a href="#">Change</a>  <a href="#">Drop</a> <a href="#">More</a>
<input type="checkbox"/>	4	<b>lon</b>	float			No	None			 <a href="#">Change</a>  <a href="#">Drop</a> <a href="#">More</a>
<input type="checkbox"/>	5	<b>sensor</b>	int			No	None			 <a href="#">Change</a>  <a href="#">Drop</a> <a href="#">More</a>



# Database Table for Primary Data

				id	ts	lat	lon	sensor
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	2024-04-25 13:02:53	13.7563	100.502	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	2024-04-25 13:10:45	13.7563	100.502	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	2024-04-25 13:14:26	13.7563	100.502	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	2024-04-25 13:16:48	13.7563	100.502	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	2024-04-25 13:21:26	13.7563	100.502	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	2024-04-25 13:24:54	13.7563	100.502	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	7	2024-04-25 13:30:12	13.7563	100.502	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	8	2024-04-25 13:33:32	13.7563	100.502	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	9	2024-04-25 13:36:45	13.7563	100.502	1
<input type="checkbox"/>	 Edit	 Copy	 Delete	10	2024-04-25 13:40:19	13.7563	100.502	1



# Secondary Data

The Weather API, specifically the OpenWeatherMap API, serves as the secondary data source, providing historical weather data such as temperature, precipitation, humidity, and other pertinent weather metrics for the study's specific region and time period.

# Weather API



- Link : <https://www.weatherapi.com/>




weather  
api



# Data Sharing API



- /main

Use /main to get or insert all motion detection data

 Powered by Redocly



## Motion Detection API (1.0.0)

API for retrieving motion detection data.

### Get all motion detection data

GET /motion >

Try it

Responses >

Response samples >



# Data Sharing API



- `/main/{id}`

Use `/main/id` to get or delete motion detection data by ID

## Get motion detection data by ID

GET `/motion/{id}` >

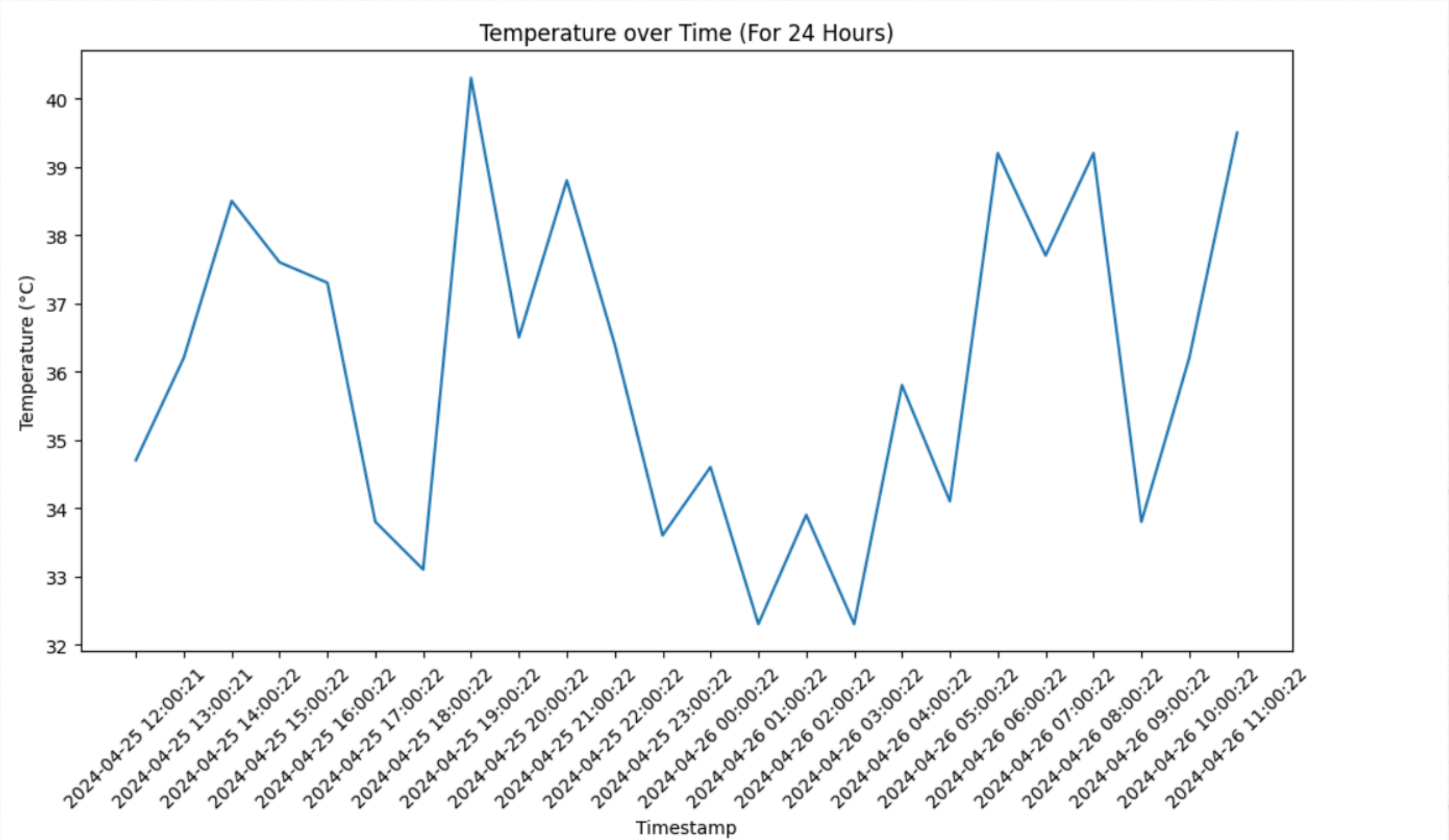
Try it

Request >

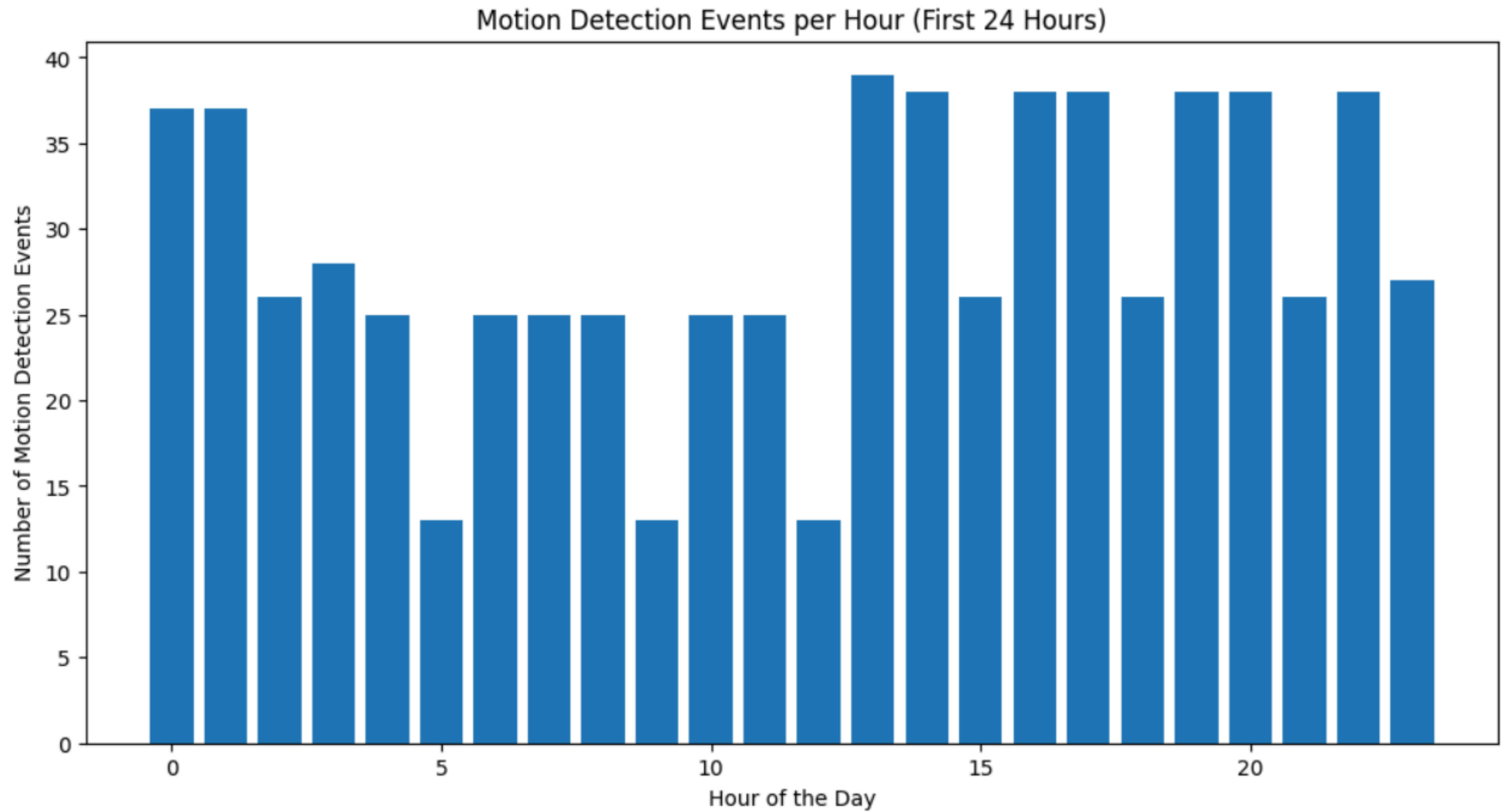
Responses >

Response samples >

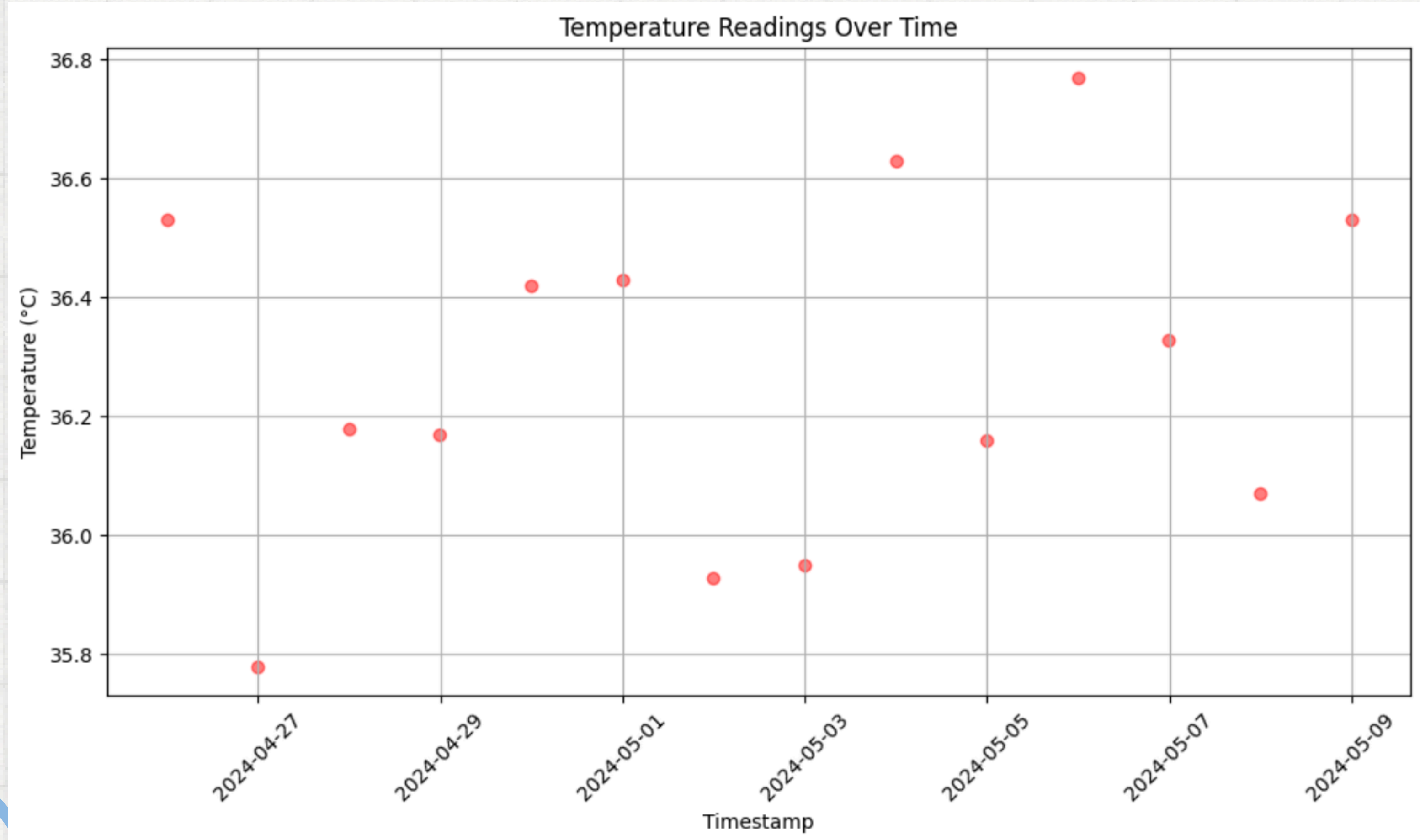
# Data Visualization



# Data Visualization

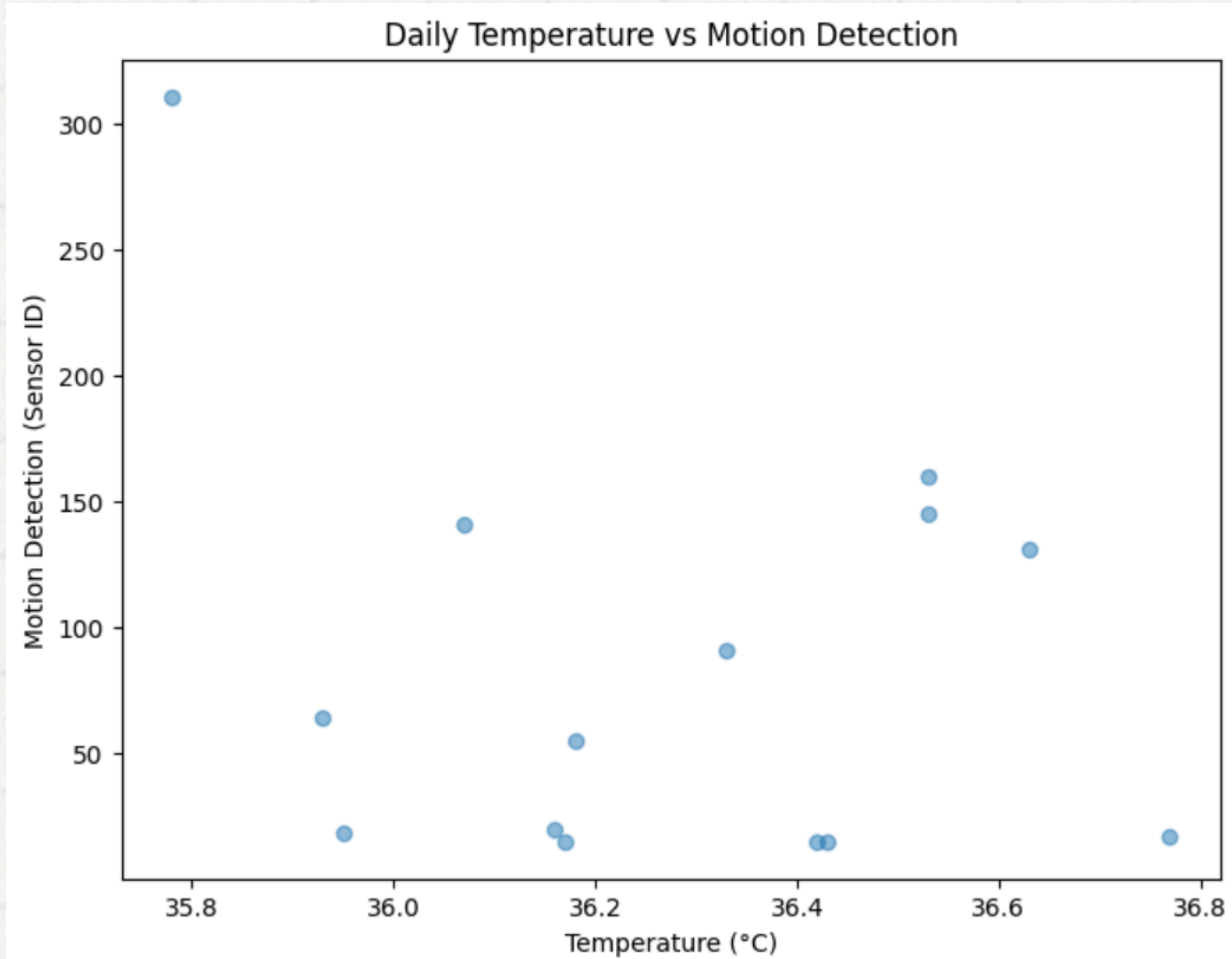



# Data Visualization





# Data Visualization



The background is a light blue grid. It is decorated with various hand-drawn blue doodles. At the top, there are several overlapping circles and loops. On the right side, there are some star-like or burst-like shapes. At the bottom, there are more circles, a wavy line, and several small checkmarks or 'v' marks.

**Thank you  
very much!**