ML4IoT - HW3 Report

Group 11

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Exercise 1: Data Collection, Communication, and Storage

MQTT is a better choice than REST because the publish-subscribe paradigm better aligns with the task. The communication is asynchronous, meaning that the publisher (Raspberry Pi) and subscriber do not need to wait for each other or directly interact. The subscriber has access to new data as soon as it becomes available, allowing real-time updates without the need of continuous polling, as in the REST approach. Moreover, MQTT is more light-weight and resource-efficient, which is important for IoT.

Exercise 2: Data Management and Visualization

The `/data/{mac_address}` endpoint uses the **GET** method because it is designed to retrieve sensor data for a specific device over a given time range without modifying the server state. The request includes `start_date` and `end_date` as query parameters, making **GET** the appropriate choice for filtering and fetching information. Since **GET** is a safe method, multiple identical requests will not alter the system's state, ensuring reliability. Alternative methods like **POST**, **PUT**, or **DELETE** would be unsuitable, as they are meant for creating, updating, or deleting resources.