Ahmed Aziz Ouertatani

Data Engineer | Systems Engineer | IoT & Energy Solutions

ahmed.ouertatani.oa@gmail.com | +491520391129 | LinkedIn | GitHub

About Me

I am a dynamic Data and Software Engineer with over three years of experience designing scalable data pipelines, cloud-based IoT solutions, and real-time analytics systems. Proficient in Python, AWS, and MQTT, I am passionate about clean energy and sustainable technology, delivering innovative solutions to optimize energy systems and enhance data-driven decision-making.

Skills

- **Programming Languages**: Python, C++, JavaScript
- **Technologies & Tools**: MQTT, NodeRed, FastAPI, AWS, Docker
- **Databases & Other**: Cassandra, MongoDB, InfluxDB, Grafana, ETL Pipelines, Agile

Projects

MoonBoard Core

Developed core software for controlling the MoonBoard LED system using an ESP32, supporting Bluetooth and USB communication to light predefined LED routes for climbing training.
Technologies: C++, Arduino, ESP32, WS2811/WS2812B LEDs, Bluetooth
GitHub

Air Quality Data Collection

Built an MQTT subscriber script to fetch and process real-time air quality data from Aranet meters in two buildings, storing it in a Cassandra database using pandas DataFrames with 5-minute resolution.
Technologies: Python, MQTT, pandas, Cassandra

EV Data Collection

Created an MQTT subscriber script to collect and process real-time EV charging data from Shelly meters in Building A, converting it to pandas DataFrames and storing in a Cassandra database.
Technologies: Python, MQTT, pandas, Cassandra

EV Charging and Billing System

Designed a Python script to manage charging and billing for 5 EVs across 3 ports over 6 days, optimizing energy delivery and calculating costs based on hourly prices and SoC targets.
Technologies: Python, pandas, NumPy
GitHub

GreenHeat Backend

Developed a Flask-based backend for GreenHeat, fetching weather data via OpenMeteo API and serving it through a REST API, deployable with Docker.
Technologies: Python, Flask, Docker, REST API, OpenMeteo
GitHub

GreenHeat Frontend

Contributed to a React-based frontend for GreenHeat, displaying weather data for district heating optimization, with Docker support for deployment.
Technologies: React, JavaScript, Node.js, Docker
GitHub

Get in Touch

Interested in collaborating or learning more about my work? Feel free to reach out!
Contact Me: ahmed.ouertatani.oa@gmail.com