

# MOHAMMAD MOFASSAIR HOSSAIN BHUIYAN



IoT and Edge Systems Engineer with over 7 years of experience in energy systems, building automation, and communication technologies. Skilled in designing, deploying, and maintaining multi-site LoRaWAN infrastructures, integrating BACnet and InfluxDB systems, and developing Python-based ETL pipelines for real-time data analytics. Experienced in Dockerized edge deployments, network reliability, and secure remote connectivity using WireGuard VPN. Strong foundation in electrical and electronic engineering, combined with practical knowledge of IoT protocols, data visualization, and automation. Passionate about developing scalable, data-driven solutions that enhance energy efficiency, reliability, and sustainability.

## Skills

- Power & Control Systems, Energy Storage, Renewable Energy
- IoT, LoRaWAN, BACnet
- Python, C++, Linux/Bash
- InfluxDB, SQL
- Git, Docker, Grafana
- CCNA

## Profile

[mofassair.github.io](https://github.com/mofassair)  
 [linkedin.com/in/mofassair](https://www.linkedin.com/in/mofassair)  
 [github.com/mofassair](https://github.com/mofassair)

## Languages

English ■■■■■  
German ■□□□□

## Kontakt

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**Date of Birth:** 28 January 1990

## Experience

### 06.2022 – present

- IT-Fachkraft (IoT & Edge System), Teo-tschakrow energie optimierung, Köln, Germany**
- Designed, deployed, and maintained multi-site LoRaWAN infrastructures (university complex, government development bank) for large-scale energy and facility monitoring.
  - Configured and optimized multi-vendor LoRaWAN gateways and diverse IoT sensor ecosystems through ADR tuning, RF site surveys, and antenna calibration — improving RSSI performance by 25 % and extending sensor battery life by 30 %.
  - Developed Python-based ETL pipelines for automated data ingestion, transformation, and storage in InfluxDB, integrated with BACnet systems, and visualized KPIs via Grafana dashboards.
  - Authored and maintained automation scripts and monitoring modules (meter data logging, weather data ingestion, router supervision, Linux shell automation) to streamline operations and reduce manual intervention by 40 %.
  - Built and managed Dockerized deployment frameworks for reproducible edge rollouts and version-controlled service updates.
  - Created system-level monitoring scripts and heartbeat alerts on Linux-based nodes to ensure uptime visibility and proactive fault detection.
  - Architected a WireGuard VPN mesh network (server and edge devices) connecting distributed gateways, enabling secure remote access, encrypted telemetry transfer, and centralized device orchestration with role-based access control.
  - Designed hybrid backup architecture (edge + NAS) with automated verification to maintain data integrity, redundancy, and availability.
  - Projects:
    - Public university infrastructure (two sites)
    - German government-owned development bank

### 03.2015 – 06.2020

- Deputy Manager, Summit Corporation Limited, Dhaka, Bangladesh**
- Coordinated technical infrastructure support, ensuring reliable operation, repair, and preventive maintenance of electro-mechanical and IT systems
  - Oversaw procurement, integration, and deployment of technical equipment and fixed assets for large-scale operations
  - Directed cross-functional projects involving system setup, cost optimization, and resource allocation for engineering and infrastructure initiatives

### 11.2014 – 02.2015

- Assistant Engineer, EZZY Group, Dhaka, Bangladesh**
- Conducted R&D on automation control units and devices
  - Designed technical plans and delivered project presentations
  - Maintained technical collaboration with international partners

### 11.2013 – 11.2014

- Executive Expert, E Lab Bangladesh Limited, Dhaka, Bangladesh**  
11.2013 – 11.2014
- Developed energy-efficient LED lighting solutions, reducing consumption by 30%
  - Designed and installed a solar-powered portable irrigation system

## Education

- Master of Science (M.Sc.) in Communication Systems and Networks** 03.2020 – Present  
Technical University of Cologne (TH Köln), Cologne (Germany)  
♦ 2 modules + thesis pending. Focus: IoT, Networks, Edge Computing.
- Master of Engineering in Telecommunication** 2018  
American International University-Bangladesh, Dhaka (Bangladesh)
- Bachelor of Science in Electrical & Electronic Engineering** 2014  
American International University-Bangladesh, Dhaka (Bangladesh)

## Certifications

- Circuits and Electronics (6.002x)** from Massachusetts Institute of Technology 2013
- CCNA: Introduction to Networks** Issued by Cisco 2021
- The Things Academy: Hands on with LoRaWAN®** on Udemy 2023
- A Practical Introduction to the BACnet Protocol** on Udemy 2023
- ET3034Tux: Solar Energy** from Delft University of Technology (Online) 2013