

Emran Ahmed

Computer Engineer

🏠 54/1/A, Baruntek, Pallabi, 1206, Dhaka

☎ +8801681076315

✉ eahmed_coe@outlook.com

Professional Summary

Applied engineer and data-driven operations leader with over five years of experience in computer engineering, process automation, and digital systems integration. Skilled in AI, SCADA, CMMS, and data analytics for large-scale water treatment operations. Proven ability to implement data-driven optimization, enhance efficiency, and lead interdisciplinary teams.

Education

Bachelor of Science in Computer Engineering

American International University-Bangladesh (AIUB) - Dhaka, Bangladesh (2014 – 2018)

Major: Electronics, IC Design, and Embedded Systems

CGPA: 2.91 out of 4.00

Thesis: "Performance Analysis of DP-QPSK and DP-QAM16 in a DWDM Fiber Optic System"

- Analyzed dual-polarization modulation techniques for single-channel transmission systems.
- Evaluated Optical Signal-to-Noise Ratio (OSNR), Bit Error Rate (BER), Transmission Distance, and Error Vector Magnitude (EVM).
- Achieved A+ grade.

Publication

Ahmed, E., Sen, B., Rahman, M., & Dhruvo, A. R. (2018). "85 Channel DWDM Performance Analysis and Comparison of 9.52 Tb/s Transmission for 3056 Km using DP-QAM16 with Cascaded Fiber Link and Optical Phase Conjugation".

International Conference on Computer, Communication, Chemical, Materials, and Electronic Engineering (IC4ME2), Rajshahi, Bangladesh, 2018.

DOI: 10.1109/IC4ME2.2018.8465650

Professional Experience

Operation Team Leader, Saidabad Water Treatment Plant (SWTP-1)

Dhaka Water Supply and Sewerage Authority (DWASA) - Dhaka, Bangladesh (Mar 2022 - Present)

- Monitor and optimize plant performance through data-driven analysis of key water quality parameters (turbidity, pH, chlorine residual, chemical dosing, and energy consumption).
- Troubleshoot and maintain PLC, HMI, and SCADA systems; coordinate with electrical, mechanical, and laboratory teams to ensure smooth operation.
- Maintain comprehensive operational datasets, ensuring accurate documentation and traceability of process parameters for analysis and reporting.
- Prepare detailed monthly operation and maintenance reports; lead presentations in multi-department performance review meetings.
- Reduced process loss by approximately 2-3% through data analytics and KPI-based process optimization.
- Developed a custom Automation and Digitalization Action Plan for SWTP-1, aligned with SUEZ's 2002 master action plan.
- Collaborated with SUEZ consultants on plant optimization and process mitigation initiatives (FY 2022-23, 2023-24).
- Facilitated technical tours and knowledge sessions for visiting students and professionals, focusing on automation, SCADA integration, and process monitoring methodologies.

Assistant Team Leader, Saidabad Water Treatment Plant (SWTP-1)

Dhaka Water Supply and Sewerage Authority (DWASA) - Dhaka, Bangladesh (Oct 2020 - Feb 2022)

- Lead operations of a 4.4 MW power generation system (three Jenbacher J320 and one J420 gas generators) integrated with grid supply.
- Plan and execute preventive maintenance schedules and oversee daily power operations, including system synchronization, load management, fault diagnostics
- Maintained spare parts inventory of over 30,000 items.
- Supervise major overhauls (60K hours) of three generator units in collaboration with Clarke Energy.
- Introduced and implemented Computerized Maintenance Management System (CMMS) using Infor EAM, improving daily coordination among departments.
- Supported digitalization and automation of SWTP-1, including SCADA integration for pumps, motors, and process equipment. Collected and analyzed process data for ongoing plant automation initiatives.

Executive (Digital Ad Operations)

ServicEngine Limited - Dhaka, Bangladesh (July 2019 – Sep 2020)

- Managed digital advertising operations for McClatchy Company, a leading U.S. media group with over 30 local newspapers (e.g., The Sacramento Bee, Miami Herald, El Nuevo Herald).
- Operated on complex ad delivery platforms such as Google Ad Manager and Google Campaign Manager to manage, track, and optimize publisher ad inventories.
- Conducted quality assurance (QA) activities to identify, document, and resolve system and data-related issues within ad delivery pipelines.
- Collaborated directly with U.S. clients through weekly review meetings, strengthening cross-cultural communication and process management skills.
- Improved accuracy and efficiency of ad delivery workflows; strengthened communication and project management skills.

Skills & Technical Proficiencies

- **Programming & Data Tools:** Python, MATLAB, C/C++, SQL, VBA (Excel Automation), Google Data Studio
- **Simulation & Modeling:** OptiSystem, OptiFiber, Proteus, Multisim, MATLAB Simulink
- **Automation & Control Systems:** SCADA, PLC Programming (Siemens, Allen-Bradley), HMI Design, Modbus/ TCP, Infor EAM
- **Process & Analytics Tools:** KPI Dashboard Design, Predictive Maintenance, Water Quality Data Analysis (pH, Turbidity, Chlorine Residual), Process Optimization
- **Other Technical Competencies:** Electrical Troubleshooting, Control Panel Design, Generator Synchronization, Preventive Maintenance Planning, Technical Reporting (MS PowerPoint, Word, Excel) Trainings & Workshops

Trainings & Workshops

- **Web Development Certification Program, University of Dhaka - (Jan - Apr), 2015**
Completed intensive training covering full-stack web development:
Frontend: HTML, CSS
Backend: PHP
Database: MySQL
Developed hands-on skills in building and managing dynamic, database-driven web applications.
- **Workshop: Basics of Microcontroller**
Organized by ESAB AIUB Unit Face - 12 November 2015
Introduced to microcontroller architecture, programming basics, and simple automation circuits using Arduino.
- **Workshop: A Day for Quadcopter**
Organized by ESAB AIUB Unit Face - 31 March 2016
Gained foundational knowledge on quadcopter design, sensor integration, and control systems in UAVs.

Professional Development

Enterprise Asset Management using Infor EAM (CMMS), Organizer: SUEZ International

Trainer: Maunick Kitsoukou

Maintenance and Asset Management Engineer, SUEZ International (France)

Date: 4th - 12th October, 2021

- Participated in a 9-day international training program covering computerized maintenance management systems (CMMS).
- Emphasis on enterprise asset tracking, maintenance planning, and EAM implementation.

Key Achievements

- Reduced operational loss to 2–3% at Saidabad SWTP through data-driven analysis and KPI modeling.
- Implemented CMMS framework for daily interdepartmental coordination, now used daily at SWTP-1.
- Promoted from Assistant Team Leader to Operation Team Leader within two years for excellence in digital transformation.
- Published IEEE conference paper on optical transmission systems performance analysis, IC4ME2 (2018).
- Led digitalization and SCADA integration for a high-capacity surface water treatment plant.

Languages

English

Bengali

PTE Academic: 80 Overall

(Speaking: 90, Listening: 74, Reading: 66, Writing: 66)

Native

GRE: 326

(Verbal: 162, Quantitative: 164, Analytical Writing: 3.5)

References

Dr. Md. Saniat Rahman Zishan

Professor, Department of EEE
Director, Faculty of Engineering
American International University – Bangladesh (AIUB)

Email: saniat@aiub.edu
Cell: 01720191713

Md. Abid Hossain

Executive Engineer
MODS Zone-4
Dhaka Water Supply and Sewerage Authority (DWASA)

E-mail: abid310@gmail.com
Cell: 01819229417