

SHAMROZE NASIR

Facility & Electrical Engineer | HVAC, BMS & Energy | AI Automation

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Portfolio: shamrozenasir.netlify.app | GitHub: github.com/shamroze153

PROFESSIONAL SUMMARY

Electrical engineer with 6+ years across facility engineering, building management systems (BMS), HVAC, solar PV and ISO quality systems, at a bank head office, hospital and pharmaceutical sites, a manufacturing plant and a three-campus technology workplace. Combines hands-on maintenance leadership with software: builds computer vision, AI agent and digital twin tools on top of the infrastructure buildings already have. Creator of EnergyCam (BMS-style energy monitoring for split ACs using only existing CCTV, zero new hardware) and the 141-C Digital Twin, built in ten days with zero budget and featured in Disrupt (Gaditek)'s company film. Passionate about turning facility operations into measurable, data-driven utility performance.

CORE SKILLS

Facility Management: Hard FM, preventive and corrective maintenance, planned asset maintenance (PAMS), emergency breakdown response, vendor development and management, BOQ review, cost optimization, business continuity

Building Systems: Building Management Systems (BMS) and building automation, HVAC and split AC systems, UPS, lifts, generators, RO water plant, LT electrical distribution

Electrical & Energy: Electrical maintenance, power factor correction (PFC), solar PV design and commissioning, net metering, energy auditing, load and consumption analysis

Quality & Compliance: ISO 9001, ISO 14001, internal audits, documentation control, staff training, HSE incident reporting

AI & Software: Python, computer vision (YOLOv8, OpenCV, ByteTrack), AI agents (Google Gemini), React, Next.js, TypeScript, Google Apps Script, PostgreSQL (Supabase), Streamlit, Three.js / WebGL, digital twins, IoT (ESP8266), Git and GitHub

PROFESSIONAL EXPERIENCE

Executive, Workplace HFM (Hard Facilities Management)

Jan 2026 – Present

Disrupt (Gaditek) | Karachi, Pakistan

- Lead electrical and HVAC maintenance teams across a three-campus workplace, owning preventive and corrective maintenance, emergency breakdowns and business continuity.
- Digitized facility operations: replaced manual records and scattered spreadsheets with a phone-first FM portal (tickets, asset health, refrigerant stock, checklists, technician KPIs) and an RO plant portal with QR stickers, daily missed-reading reminders and scheduled reports.
- Built EnergyCam, a computer vision system that turns existing CCTV into BMS-style energy monitoring for split ACs; its live pilot logged 369 records and raised 3 energy-waste alerts in the first five days, with zero new hardware.
- Built the 141-C Digital Twin: the office rebuilt in 3D from 23 PDF drawings (calibration error under 0.5%), now a browser viewer with walk-inside mode, room search, emergency exit routing and English/Urdu support; first version delivered in ten days with zero budget.
- Prepared rooftop solar proposals for buildings 141-C and 141-D (101 and 110 panels, about 65 kW and 71 kW), covering mounting structure, 3D panel layout, shading checks and consumption analysis against utility meter data.
- Led technical evaluations, vendor assessments, BOQ reviews and engineering planning for infrastructure projects including the RO plant and boring works, coordinating vendors for timely, compliant and cost-effective execution.

Executive, Maintenance (Electrical)

Jan 2025 – Dec 2025

Utopia Industries (Pvt) Ltd. | Karachi, Pakistan

- Managed electrical maintenance for the Maintenance Electrical A department and supervised technician teams.
- Supported the Maintenance Manager with fault troubleshooting and preventive maintenance planning.
- Worked on power factor correction (PFC) automation and the plant's AI transformation initiatives.

Technical Sales Engineer

Aug 2024 – Oct 2024

Pantera Energy | Karachi, Pakistan

- Designed and commissioned solar PV systems for residential and commercial clients.
- Managed site execution, net metering and client technical support, with post-installation performance monitoring.

BMS Engineer	May 2023 – Jan 2024
<i>Fulcrum, UBL Head Office Karachi, Pakistan</i>	
- Operated and maintained the BMS, HVAC, UPS and lift systems of UBL's head office. - Coordinated vendors and procurement, and planned asset maintenance through PAMS to ensure compliance and reliability.	
Site Engineer	Aug 2022 – May 2023
<i>IMS Engineering (Pvt) Ltd. Karachi, Pakistan</i>	
- Commissioned BMS projects at GSK Pharma, Aga Khan Hospital and DHA Suffa University. - Performed maintenance, troubleshooting and system optimization, coordinating with clients and technical teams.	
ISO Consultant	Jan 2020 – Jul 2022
<i>Global Standards Karachi, Pakistan</i>	
- Implemented ISO 9001 and ISO 14001 management systems for organizations across sectors. - Prepared documentation, conducted internal audits and delivered training for continuous improvement.	

SELECTED PROJECTS

<i>Code and demos: github.com/shamroze153 Portfolio: shamrozenasir.netlify.app</i>	
EnergyCam (computer vision for HVAC energy waste): Reads room occupancy (YOLOv8) and each split AC's own LED display from an existing IP camera; flags waste after 18 minutes of an empty room with the AC on, emails a snapshot, and logs every event to a live dashboard. Python, OpenCV, PostgreSQL, Streamlit. 141-C Digital Twin v4.0: Measured 3D model reconstructed from 23 drawing sheets, with walk-inside mode, 15-stop guided tour, wayfinding, sun study and an engineered rooftop solar concept (147 x 645 Wp modules, 94.8 kWp laid out). Featured in Disrupt (Gaditek)'s company film. Python, OpenCV, Shapely, Three.js. ProcureAI: AI procurement assistant: photo-based item identification, sourced market research with Google Gemini, and line-by-line quotation audits, with a person approving every spend. Live release candidate, 96/96 logic tests passing. React, Vercel. Emergency Response System: QR code per location opens a pre-filled incident report, emails responders instantly, escalates if unacknowledged and tracks closure on a live dashboard. Next.js, Google Apps Script. Campus People Counter: Counts people in and out across a virtual line on a live gate camera using YOLOv8 detection and ByteTrack tracking.	

EDUCATION

Bachelor of Engineering (B.E.), Electrical Engineering	2020
<i>Sir Syed University of Engineering & Technology, Karachi CGPA 3.0</i>	
Intermediate (Pre-Engineering)	2015
<i>D.J. Sindh Govt. Science College, Karachi Grade A</i>	
Matriculation	2013
<i>Nasra Secondary School, Karachi</i>	

RECOGNITION

Featured in Disrupt (Gaditek)'s company spotlight film (2026) for building the 141-C Digital Twin with free AI tools, in ten days and with zero budget.

LANGUAGES

English (professional), Urdu (native)
