

Professional Summary:

Solar Design Engineer with 3 years' experience in utility-scale ground-mount PV systems (up to 50MW) and Battery Energy Storage Systems (BESS), along with commercial rooftop projects. Proficient in PVCase, PVsyst, AutoCAD, and Excel-based tools for PR calculations, energy yield modelling, and system optimization. Experienced in conducting HH (half-hourly) data analysis, designing tailored systems for self-consumption, and producing performance simulations. Contributed to 10+ utility-scale projects and 20+ commercial rooftops including installations for Tesco and David Lloyd. Background in mechanical engineering focused on clean energy applications.

Summary of Skills:

- Solar PV layout design using PVCase and AutoCAD
 - Energy yield modelling and performance simulation using PVsyst and PVSol
 - Battery Energy Storage System (BESS) design and analysis
 - Excel tools for PR calculations, system sizing, and energy simulations
 - Feasibility and detailed analysis using HH (half-hourly) data
 - Mechanical and piping design (AutoCAD, SolidWorks, CATIA, PDMS)
 - Piping stress analysis using CAESAR II
 - Project scheduling with Primavera; basic automation with Python
 - Effective collaboration with procurement, clients, and engineering teams
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Professional Experience:

Solar Design Engineer – Push Power, Colchester, UK

Oct 2022 – Present

Software: PVCase, PVsyst, PVSol, AutoCAD, HomerPro, Excel

- Conducted 100+ feasibility studies with half-hourly data analysis to optimize PV systems for maximum self-consumption and cost savings.
- Designed 20+ commercial rooftop PV systems (10 David Lloyd and 3 Tesco projects), achieving an average Performance Ratio (PR) exceeding 85%.
- Led and supported the design of 10+ utility-scale ground-mount PV systems (500kW to 50MW), including layout creation in PVCase and performance simulations in PVsyst.
- Developed Excel tools for PR tracking, yield estimation, and BESS performance modelling, achieving up to 50% reduction in time spent on PV string length design and improving decision-making efficiency for sizing and layout selection.
- Performed inverter sizing, import/export evaluation, and load-matching to enhance project ROI.
- Used HOMER Pro for simulating hybrid energy systems to evaluate solar-plus-storage configurations.

- Created proposal documentation and technical drawings that contributed to successful tender submissions.
- Modelled PPA-based financial scenarios to illustrate ROI, IRR, and savings potential for investors and clients, supporting informed project decisions.
- Collaborated with clients, procurement teams, and engineers to align design output with project goals.

Mechanical Site Engineer – Khalid Ali Al Kharafi, Kuwait

Dec 2018 – Dec 2019

- Supervised fabrication and erection of six storage tanks, ensuring adherence to quality and safety standards.
- Coordinated with suppliers and teams on material flow, reporting, and daily progress tracking.

Graduate Apprentice – Design Engineer – Bharat Heavy Electricals Ltd. (BHEL), India

Sept 2017 – Sept 2018

- Created isometric drawings from P&IDs using AutoCAD and PDMS.
- Prepared BOMs and IBR documentation; performed pipe stress analysis in CAESAR II.

Mechanical Site Supervisor – Maruti Fabricators, India

July 2016 – Aug 2017

- Supervised duct and structural steel fabrication for thermal power plant installations.
- Produced fabrication drawings using AutoCAD and SolidWorks.

Education

MSc – Renewable Energy – Coventry University, UK

Jan 2021 – Jan 2022

Key Modules: Solar, Wind, Hydro, and Bio-Energy Systems

Thesis: *Design and Evaluation of a Solar-powered Irrigation System using PVsyst*

BE – Mechanical Engineering – Anna University, India

Sept 2012 – June 2016

Project: *Alternate Welding Method for Dished End of OTSC Boiler Separator*

Certifications & Training

- AutoCAD Level 1 – Autodesk Authorized Training Centre
- NEBOSH International General Certificate (IG1 & IG2) – Completed
- Certified Rooftop Solar Operative – Includes Working at Height & Rescue Training
- In-house electrical design training
- Product and design tool training from Huawei, RatedPower, and SolarEdge
- CPD Certified: Work at Height Awareness, COSHH Awareness
- Fire Warden & Basic First Aid Certified
- UK Flyer ID Certified – Completed drone operator training for safe flight in compliance with CAA regulations