Sushant Bikram Kunwar

Email | Linkedin | Twitter | Location: [Pokhara, Nepal]

SUMMARY:

Final-year Electrical Engineering student at Tribhuvan University (expected Apr [2026]) with interests across power generation, transmission and distribution, and data-driven grid reliability.
Core interests in forecasting, anomaly/fault detection, predictive maintenance, and energy-storage dispatch.

FOCUS AEAS:

- **Power systems**: generation, T&D planning/operations, protection fundamentals, power quality, protection and metering, switchgears.
- **AI/analytics**: load/solar/inflow forecasting, anomaly detection, predictive maintenance, model predictive control(MPC).
- **Energy storage and microgrids**: sizing, dispatch strategies, reliability.
- **Design/drafting:** SLDs, lighting layouts, basic cable schedules (AutoCAD)
- **Energy Auditing**: study consumption patterns, finding the best possible routes for minimze consumptions.

EXPERIENCE:

A. **Hydropower O&M Intern** — Mardi Khola Small Hydropower,
[Lwang Ghalel, Machhapuchre R.M, Nepal]
Oct 2024 – Nov 2024

- 4.8 MW hydropower situated 15km west from Hemja, Pokhara.
- Shadowed turbine-generator operations, governor/excitation, and grid synchronization.
- Reviewed SCADA trends/alarms and prepared daily generation logs.
- Observed switchyard procedures (breakers, isolators, CT/PT,) and toolbox talks.

B. **Hydropower Intern** — Karuwa-Seti Hydropower Pvt. Ltd,
[Sardi Khola, Machapuchhre R.M, Nepal]
Sept 2025 – Oct 2025

- 32 MW hydropower with design discharge of 15.3m^3/s.
- Walkthrough of powerhouse, intake/penstock, sediment handling; start-up/shutdown sequences.
- Contributed to SLD/equipment registers in AutoCAD and maintenance checklists.
- Exposure to protection coordination and safety protocols.
- Core understanding of protection panels, switchgears and protection equipments.
- Depth understanding of PLC's and SCADA.

PROJECTS:

1. **Piezoelectric Footstep Energy Harvester** — Team Lead; showcased at LOCUS 2025 [March 2025].
   - Designed a footstep energy harvester using piezoelectric elements with a lever/spring and flywheel mechanism for force/energy accumulation.

- Responsibilities: mechanical layout, wiring/assembly, instrumentation (multimeter/oscilloscope), cost/BOM, demo at LOCUS 2024.

2. **Energy Audit — Fishtail Lodge by Annapurna**
   Lakeside, Pokhara, Nepal [Aug 2025]

    - Built a baseline from 12-month utility bills and a full load inventory across guest areas and back-of-house.
    - Inspected distribution transformers and LT panels (loading, phase balance, no-load/copper losses). Recommended right-sizing or replacement with high-efficiency units, plus PF correction.
    - HVAC/exhaust: proposed replacing aged belt-driven exhaust fans with high-efficiency direct-drive/EC fans or IE3/IE4 motors with VFDs and timer/occupancy controls.
    - Performed data analysis to flag abnormal standby loads and leakages; recommended sub-metering for high-use zones.
    - Additional measures: LED retrofits, schedule/set-point optimization, VFDs for pumps/fans, PV/SWH pre-feasibility.
    - Outcome: projected >15% reduction in energy bills; delivered a cost–benefit and payback report; updated SLD/lighting layouts in AutoCAD.
    - Tools: Excel/Python for analysis; clamp meter/loggers, AutoCAD for diagrams.

3. *Ongoing Project:* ANFIS based AVR and LFC system, Paper writing phase ongoing.

EDUCATION

Bachelor of **Electrical Engineering**, **Institute of Engineering**[Tribhuwan University]
Expected Graduation: Apr [2026]
Relevant Coursework: Power System Analysis, Power Electronics, Electrical Machines, Protection & Switchgear, High Voltage, Control Systems, Signals & Systems, Data Analytics/ML.