KESHAV JHA

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PROFESSIONAL SUMMARY

Electrical and Electronics Engineer (B.E., Kathmandu University, 2026) and co-founder of G. Nepal Pvt. Ltd. Practical experience in hydropower generation, transmission systems, solar and agrivoltaic energy, and drone surveying and mapping in disaster response. Works on AI and machine learning in Python alongside power system components, embedded system design and simulation-based analysis. Also does video editing and camera work.

EDUCATION

Bachelor of Electrical and Electronics Engineering *2021 – 2026*

Kathmandu University, Dhulikhel, Nepal

PROFESSIONAL EXPERIENCE

Co-founder *Present*

G. Nepal Pvt. Ltd., Kathmandu

- Technology and R&D company working on robotics, drones, AI, renewable energy and STEM education.
- Company strategy and engagement with government offices, schools and partner institutions.
- AI, machine learning and digital systems work, including the Gnepal LMS platform.
- Video and camera work for company projects and communications.

Drone Surveying and Mapping – Rasuwa Flood Response *Aug – Sep 2026*

G. Nepal drone team, deployed through the Prime Minister's Office · Rasuwa and Nuwakot

- Deployed to the field with G. Nepal's pilots and team after the 26 August 2026 Bhote Koshi flash flood.
- Aerial survey and mapping of damaged terrain, settlements, roads and bridges along the Rasuwa–Trishuli corridor to support search, rescue and relief planning.

Engineering Intern *1 month*

Nupche Likhu Hydropower Project

- Hands-on exposure to hydropower generation systems including turbines, generators and auxiliary equipment.
- Observed and assisted in switchyard operations including circuit breakers, isolators, CTs, PTs and protection systems.
- Studied transmission line configuration, protection coordination and grid interconnection.

RESEARCH

Agrivoltaics Research and Demonstration Project (Completed)

Nepal Technology Innovation Center (NTIC) · Funded by Prof. Sujith Ravi, Temple University · Dhulikhel, Kavre

- Electrical design and configuration of a pilot agrivoltaic system integrating solar PV with agriculture.
- System sizing, structural layout planning and energy yield estimation.
- Field implementation and monitoring of solar generation performance.

TECHNICAL PROJECTS

Smart Helmet

Arduino, MPU IMU, GPS, GSM

- Impact and orientation detection using an MPU inertial measurement unit on an Arduino.
- GPS location sent by SMS through a GSM module when an accident is detected.

Solar Tracker System (Proteus Simulation)

- Designed and simulated a single-axis solar tracker using Arduino and LDR sensors.
- Motor driver based angular control for real-time alignment.
- Comparative analysis of fixed and tracking configurations; about 25% improvement in simulated energy output.

Solar Panel Cleaning Robot

- Automated cleaning mechanism using DC motors and a brush–water jet system.
- Control circuitry for systematic panel traversal and a monitoring system to evaluate efficiency after cleaning.
- Mechanical and electrical design optimised for low power operation.

Battery Management System (BMS)

- Protection-based monitoring of voltage, current and temperature.
- Safeguards against overcharge, deep discharge and thermal risk; simulated under varying load conditions.
- Battery lifecycle monitoring through health evaluation logic.

Laser-Based Security Alarm System

- LDR–laser intrusion detection using an LM358 comparator, transistor switching and a 555 timer in bi-stable mode.
- Simulated in Proteus, PCB layout designed and hardware prototype tested.

Banepa 66/11 kV Substation Field Study

Kathmandu University · Nepal Electricity Authority

- Study of 22.5 MVA transformers, SF6 and vacuum circuit breakers, numerical relay protection (87T, 50/51, REF) and SCADA.

TECHNICAL SKILLS

AI / Machine Learning: Machine learning model development, training and evaluation, data analysis, Python
Programming: C, C++, Python, MATLAB
Simulation Tools: Proteus, MATLAB/Simulink
Design Tools: AutoCAD Electrical
Hardware Platforms: Arduino, ESP32, GPS/GSM modules, IMU sensors
Core Areas: Power Systems, Hydropower, Renewable Energy, Embedded Systems, Machine Learning, Drone Surveying and Mapping
Media: Video editing, camera work

LEADERSHIP EXPERIENCE

Secretary *1 year*

Kathmandu University Leadership and Professional Development Club (KULPD)

- Coordinated technical and professional development events.
- Managed official documentation and communication.