

Engr. Biplop Giri

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SUMMARY

- Electronics and Communication Engineering graduate with hands-on experience in embedded systems, IoT, drone technology, and sensor-based hardware projects.
- Skilled in full stack development and AI integration, with a focus on building real-world systems that bridge hardware and software.

EDUCATION

- **Advanced College of Engineering and Management** Kathmandu, Nepal
BE Electronics, Communication and Information Engineering 2021 – 2025
- **Purwanchal Secondary School**
School Leaving Certificate – Grade XI & XII 2020
- **Mahananda Shiksha Sadan Buddhashanti-02**
Secondary Education Examination (SEE) 2018

SKILLS

- **Electronics & Hardware:** Embedded Systems, Microcontrollers, Sensor Integration, IoT, Drone Systems, RF Communication
- **Systems & DevOps:** Linux (Ubuntu/Debian), Bash scripting, SSH, NGINX, Docker, CI/CD, AWS (EC2, S3, IAM)
- **Languages:** C/C++, Bash, Python, JavaScript, TypeScript,
- **Frameworks:** FastAPI, Rasa, Node.js, Next.js
- **Databases:** MongoDB, PostgreSQL, Elasticsearch, Vector DBs (Pinecone, ChromaDB), Firebase Realtime DB
- **AI/ML:** NLP, Computer Vision, Semantic Search, CLIP, YOLO, fastText
- **Tools:** Git, Linux CLI, NGINX, Docker Compose, Arduino IDE, MIT App Inventor

EXPERIENCE

- **Ganesha Computing Pvt. Ltd.** Kathmandu, Nepal
Full Stack Developer May 2025 – Oct 2025
 - Deployed and managed backend APIs on Linux servers with CI/CD pipelines and cloud infrastructure.
 - Configured NGINX as a reverse proxy and managed service processes on Ubuntu-based environments.
 - Built real-time chat systems and dashboards with scalable backend architecture.
- **Lakhey Labs** Kathmandu, Nepal
Co-Founder & Technical Operations Lead Oct 2025 – Jun 2026
 - Managed server-side infrastructure and automated operational workflows using Bash and Python scripts.
 - Oversaw technical workflows for a 3D printing business, bridging hardware operations with software systems.
- **F1Soft International Pvt. Ltd.** Lalitpur, Nepal
Student Fellow July 2024 – Jan 2025
 - Developed and deployed a reverse image search system on Linux-based infrastructure using CLIP embeddings.
 - Worked on multimodal retrieval pipelines combining image and text representations in a production environment.
- **Advanced College of Engineering and Management** Kathmandu, Nepal
Research Assistant May 2025 – Jun 2026
 - Worked on applied AI and electronics research projects including system monitoring and deployment.

PROJECTS

- **Gesture and Voice-Controlled Car** 2024
Embedded Systems Project
 - Designed a gesture-controlled car using MPU6050 for gesture recognition and RF433 for wireless remote control.
 - Integrated ultrasonic sensors for obstacle detection and MPU6050-based fall detection.
 - Added voice command support and SMS fall alerts via MIT App Inventor using the phone's built-in SMS feature.
- **Smart Bus Fare Collection and Monitoring System** 2024
IoT Project
 - Built an automated bus fare system using RFID, GPS, ESP32, and GSM modules.
 - Calculated fare dynamically using GPS coordinate differences and timestamps, with real-time balance deduction via Firebase Realtime DB.
 - Sent SMS alerts for fare deductions and low balance using GSM module integration.
- **Human Following Robot** 2024
Robotics Project
 - Contributed to development of a robot that follows humans using a color-grid-based tracking algorithm.
 - System detected a 4-color grid, calculated the midpoint, and used it to steer and follow the target in real time.
- **AI based Ecommerce With Multimodal Product Search** 2024
Major Academic Project
 - Built a reverse image search system using CLIP embeddings deployed on Linux with Docker.
 - Implemented semantic search with Nepali language support using vector representations and Pinecone.
- **ACEM Chatbot System – Rasa-based AI Assistant** 2025
Full Stack Project
 - Deployed Rasa NLP chatbot on a Linux server with NGINX reverse proxy and Docker Compose orchestration.
 - Built custom action server for dynamic response generation and intent-based dialogue management.
- **InstaPasa – Instagram Commerce Platform** 2025
Full Stack Project
 - Hosted webhook-based backend on AWS EC2, configured NGINX and SSL for production traffic.
 - Integrated AI-assisted messaging workflows for automated creator-brand conversation handling.
- **LakheyLabs ERP – 3D Printing Business System** 2025
Full Stack Project
 - Developed a backend-driven ERP system for inventory, order, and workflow management with Dockerized services.

CERTIFICATIONS & ACHIEVEMENTS

- **Drone Training Program – Far East University** Aug 5 – Sep 4, 2025
Conducted by Prof. Jaedong Choi, Chairman, Dept. of Industrial Drone
 - Completed one-month intensive training covering drone fundamentals, practical applications, industrial practices, and anti-drone concepts.
- **Paper Presentation – IJCC 2026** 2026
12th International Joint Conference on Convergence
 - Presented research paper: *Multimodal Product Search for E-commerce using CLIP and Clothing Detection*.
- **Project Presentation – ACEM Undergraduate Project Conference** 2025
Advanced College of Engineering and Management
 - Presented: *AI-Powered E-commerce with Image Recognition*.
- **eSewa UXperience Program – Active Participation** Jul 10, 2025
eSewa Money Transfer Pvt. Ltd.
 - Engaged in UX design, live usability testing, prototype evaluation, and knowledge sharing sessions.

VOLUNTEER WORK

- **Arduino & Embedded Systems Workshop – Volunteer** 2024
7-Day Hands-on Workshop
 - Co-conducted a 7-day workshop teaching Arduino and embedded systems basics to participants.
 - Covered hands-on sessions with real hardware including temperature sensors, MIT App Inventor, and practical circuit demonstrations.