Prabigya Acharya

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Computer engineer working on NLP and agentic systems for education, with research experience in 3D scene understanding and deployed language-model systems, and a record of research supervision and teaching.

Education

Bachelor's in Computer Engineering *2019–2024*

IOE, Pulchowk Campus, Tribhuvan University • GPA: 81.02 / 100 (Distinction)

- Ranked 254th of roughly 16,000 applicants in the IOE entrance examination; graduated 14th of 96 in the class.
- Merit scholarship for 7 of 8 semesters.
- Final-year project: a 3D exhibition environment built on 3D Gaussian Splatting, a reconstruction pipeline for heritage sites with an interactive web-based viewer and editor. Supervised by Dr. Jyoti Tandukar (major project) and Dr. Subarna Shakya (minor project).

Research and Work Experience

Undergraduate Research Coordinator *Apr 2026 – Present*

Sunway College Kathmandu • Kathmandu, Nepal (On-site)

- Lead the college's research division, guiding around 20 students across student-led and faculty-led projects in several disciplines.
- Supervised and co-authored four student research papers, all accepted and presented at the 2nd MVIC National Conference, Nepal, and in press in its journal.
- Secured NPR 200,000 in competitive funding from NPIX for a research project on internet localisation.
- Established research groups in NLP, computer vision and reinforcement learning, and the Sunway Research Ethics Committee, the college's first ethics body for research involving human participants and data.
- Run the AI and BI workshop series, which has reached around 200 high-school students.

AI Engineer *Jun 2026 – Present*

Cyberensic • Australia (Remote)

- Lead the AI division and designed the company's RAG-based AI architecture.
- Migrate manual processes to automated workflows built on Claude agents.
- Automated compliance checks for standards workflows, replacing manual review with evidence-based assessment.

AI Engineer *Aug 2026 – Oct 2026*

AsterGaze Technologies • Remote (Contract)

- Designed and built, end to end, an AI mock-interview system that simulates visa interviews for study-abroad students: real-time voice interaction, LLM-generated questions with model answers and rubrics, rubric-based scoring and feedback, and a PostgreSQL backend.
- Adopted by education consultancies in Nepal for more than 1,000 mock-interview sessions.

Research Assistant *Jun 2025 – Mar 2026*

NAAMII (Nepal Applied Mathematics and Informatics Institute for Research) • Supervisor: Dr. Danda Pani Paudel

- Developed a hierarchical 3D scene description framework for Gaussian Splatting scenes (SceneBench, under review at 3DV 2027).

- Designed and built the LangGraph-based agentic pipeline that generates hierarchical scene descriptions from 3D scenes and object labels, and the human-in-the-loop validation workflow around it.
- Curated a dataset of 966 3D Gaussian Splatting scenes with hierarchical descriptions, 3D bounding boxes and scene question–answer pairs.
- Tools: Python, PyTorch, LangChain, LangGraph.

Research Intern *Nov 2024 – Apr 2025*

NAAMII • Supervisor: Dr. Ajad Chhatkuli

- Developed a generative approach using Stable Diffusion to synthesise warped 3D views from single 2D images.
- Built a pipeline to extract frames from YouTube videos and derive depth and normal maps.
- Curated a dataset of 2D images paired with depth and normal maps from RealEstate10K for model training and evaluation.

Software Engineer *Apr 2024 – Nov 2024*

Growthzilla • Remote

- Designed and implemented an online payment integration using the Propay API.
- Built an automated reconciliation and reporting system, reducing manual work by 60% and improving transaction traceability.
- Worked independently in a distributed team across three countries, with technical reviews and deployment handled directly with the CTO (Dr. Bipul Khanal).
- Tools: Node.js, React, Postman, HTML, CSS.

Publications

Peer-reviewed and preprints

1. **Prabigya Acharya.** Generating Curriculum Grounded Nepali Questions Based on Bloom's Taxonomy. *Proceedings of the 5th Workshop on NLP for Positive Impact (NLP4PI) at EMNLP 2026.* Accepted.
2. **Prabigya Acharya** and Liza Shrestha. A Comparative Study of Light-weight Language Models for PII Masking and their Deployment for Real Conversational Texts. *arXiv:2512.18608*, December 2025.
3. Anubhav Khanal, **Prabigya Acharya**, Roshni Poudel, Sujan Kapali, Bigyan Bhatta, Pramish Paudel, François Rameau and Danda Pani Paudel. SceneBench: A Hierarchical Benchmark for Vision-Language Understanding of 3D Scenes. *Under review at the International Conference on 3D Vision (3DV) 2027.* Designed and built the agentic annotation pipeline and the human-in-the-loop validation workflow.

Co-authored with supervised undergraduates (2nd MVIC National Conference, Kathmandu, September 2026; in press, *MVIC Journal of Management and Information Technology*, 2(1), 2026)

4. Rajat Upadhyay, **Prabigya Acharya** and Supriya Khadka. To What Extent Do LLMs Exhibit Behavioral Patterns That Correlate with Human Decision-Making in Recursive Strategic Prediction Scenarios?
5. Swikriti Luitel, Rajat Upadhyay, Melina Neupane and **Prabigya Acharya.** Convenience for Whom? A Two-Sided Study of Ride-Hailing in Nepal.
6. Raunak Regmi and **Prabigya Acharya.** Nigrani: A Multi-Framework Machine Learning System for Fraud Detection.
7. Prashant Adhikari, Supriya Khadka and **Prabigya Acharya.** Towards Fair Fares: Designing a Resilient Contactless Payment Ecosystem for Public Transit in Nepal.

Grants and Funded Research

Principal Investigator — Internet Localisation Research *2026*

Funded by NPIX • Award: NPR 200,000 (competitive)

- Competitive funding for a research project on internet localisation, conducted through the research division at Sunway College Kathmandu.

Research Supervision and Mentorship

Research Supervisor *2026 – Present*

Sunway College Kathmandu

- Supervised four undergraduate research papers from conception to camera-ready submission (publications 4–7 above), all accepted and presented at the 2nd MVIC National Conference.
- Coordinate around 20 student researchers across the NLP, computer vision and reinforcement learning groups.
- Teach the Research and Academic Writing course and the NLP and CV Project courses; started a reading group on foundational papers that students now run themselves.

Technical Skills

- **Programming & Frameworks:** Python, Node.js, React, Flask, PyTorch, TensorFlow, LangChain, LangGraph
- **Machine Learning & AI:** Neural networks, computer vision, transformers, Gaussian splatting, agentic AI, RAG
- **Web & Application Development:** HTML, CSS, JavaScript, Three.js, Postman

Certifications and Programs

IELTS Academic (27 February 2025). Overall 8.0 (Listening 9.0, Reading 8.5, Writing 7.0, Speaking 7.5); Valid until February 2027.

Engineering License, Nepal Engineering Council. Licensed computer engineer, registration number 87259.

4th NAAMII AI School (2024). Ten-day AI school with 55 hours of lectures, 18 hours of labs and 14 hours of projects, taught by researchers from ETH Zürich, NUS and other institutions; covered ML, NLP, transformers, GNNs and responsible AI.

Harvard CS50AI (edX). Harvard's introduction to AI, covering search, optimisation, machine learning and game theory.
courses.edx.org/certificates/f8d73a1d7d6e4763bb94f41f55328faa

Algorithmic Toolbox, UC San Diego (Coursera). 40-hour course on implementing efficient algorithms.
coursera.org/account/accomplishments/verify/7CIRX4N3WPZT

Teaching, Volunteering and Leadership

AI Trainer *May 2026 – Jul 2026*

Nepal Bar Council

- Led the two-day "Legal Professionals and AI" training for 200 legal practitioners in Kathmandu and Butwal.
- Gave a talk on "AI Ethics and Usage in the Legal Profession" at the Nepal Bar Council graduation ceremony, to 800 new law graduates.

Teaching Assistant *2025*

6th Nepal AI School, NAAMII

- Assisted in a ten-day international AI school with over 100 participants from Nepal and abroad.

- Supported lectures, workshops and project sessions led by researchers from Oxford, ETH Zürich, IIT and other institutions, and coordinated between instructors and participants.

Instructor, Software Fellowship *2023*

LOCUS, Pulchowk Campus

- Taught data structures and algorithms in Python to a class of 50 first-year students for four of the seven fellowship days.

Volunteer, Children in Technology *2023*

LOCUS, Pulchowk Campus

- Delivered introductory computer literacy workshops to over 40 children from local schools, covering computer basics, internet use and responsible online behaviour.