

EDUCATION

Advanced College of Engineering and Management

Kathmandu, Nepal

Institute of Engineering (IOE), Tribhuvan University

B.E. in Computer Engineering 77.22/100 (Rank: 3) (First Div.)

2018 - 2023

- Advisor: Prof. Dr. Subarna Shakya
- Research area: Recommender System and Machine Learning

PUBLICATIONS

1. Recchia G, Mangat C, Nyachhyon J, Sharma M, Canavan C, Epstein-Gross D, Abdulbari M. Confirmation bias: A challenge for scalable oversight. AAAI-AIA, 2026. [DOI]
2. Nyachhyon J, Sharma M, Thapa P, Bal BK. Consolidating and Developing Benchmarking Datasets for the Nepali Natural Language Understanding Tasks. IJCNLP-AACL, 2025. [DOI]
3. Thapa P, Nyachhyon J, Sharma M, Bal BK. Development of Pre-Trained Transformer-based Models for the Nepali Language. (CHIPSAL) COLING, 2025. (Joint First Author) [DOI]
4. Thapa P, Sharma M, Nyachhyon J, Pandeya YR. Local Herb Identification Using Transfer Learning: A CNN-Powered Mobile Application for Nepalese Flora. Arxiv Preprint, 2025. [DOI]
5. Banjara B, Shrestha J, Nyachhyon J, Timilsina R, Shakya S. Interactive Guide Assignment System with Destination Recommendation and Built-in Chatbox. Journal of Trends in Computer Science and Smart Technology, 2023. [DOI]

RESEARCH

Manifold Research Group

USA (Remote)

Open Science Research Fellow

2025.10 - Present

- Software Control Agents: Evaluate Mind2Web datasets and benchmarked models such as UITars and Qwen2.5-V.
- Analysis: Analyzed model behavior on spatial reasoning and action grounding in complex environments.

Information and Language Processing Research Lab (ILPRL)

Kavre, Nepal

Research Assistant, Supervisor: Dr. Bal Krishna Bal

2024.07 - Present

- Nepali Corpus for Foundation Models: Assembled and processed 27.5GB Nepali text corpus, contributing to low-resource language data and addressing data scarcity.
- Pre-Training: Pretrained BERT, RoBERTa, and GPT-2 with instruction tuning, achieving SOTA with 95.60 on Nep-gLUE benchmark.
- Benchmarking: Led design and release of NLUE benchmark with 12 Nepali NLU tasks, setting a new standard for evaluation.

Institute for Research and Innovation in Intelligent Systems (IRIIS)

Nepal

Co-founder & Researcher

2024.12 - Present

- Multilingual Reasoning Models: Developing planning & reasoning datasets to understand model capabilities in multi-agent environments.
- Education: Create visual educational materials on probability theory and CUDA programming, inspired by 3Blue1Brown.

Modulo Research Ltd.

Cambridge, UK (Remote)

Research Intern, Supervisor: Dr. Gabriel Recchia

2024.06 - 2024.08

- Automated Analysis: Automate analysis of 20-minute screen recordings, refining scene change detection with 80% precision via URL change tracking and LLM-based event and detail extraction of video frames.
- LLM Alignment Evaluation: Conducted scalable oversight experiments by comparing LLM outputs with human annotations to assess and improve intent alignment.

INDUSTRY

Insyde AI	Maryland, USA (Remote)
<i>AI Developer</i>	2025.01 - Present
<ul style="list-style-type: none"> AI Agent: Developed and deployed AI agents to automate financial calculations, multi-scenario evaluation, and user-facing email generation for loan officers. Automation: Reduced per-customer processing time by over 90%, enabling officers to handle 10x more requests with improved consistency and response quality. 	
Virtly IT & Business Solutions Sarl (ICEBRKR)	Geneva, Switzerland (Remote)
<i>ML Engineer</i>	2024.03 - 2024.09
<ul style="list-style-type: none"> Finetuning: Finetuned BART, T5, Pegasus for summarization (ROUGE-L >50, implying very high overlap with human summaries); Phi-3 for task prioritization system. Scheduling Algorithm: Built an algorithm to resolve online meeting scheduling conflicts by proposing optimal time slots. 	
LogicTronix	Lalitpur, Nepal
<i>ML/CV Engineer</i>	2023.06 - 2024.03
<ul style="list-style-type: none"> 3D Object Detection: Integrated and optimized SFA3D into ADAS stack, achieving real-time 3D object detection at 20 FPS on embedded platforms. Object Detection & Tracking: Implemented YOLO, CenterNet, and Deep SORT algorithms for real-time object detection and tracking at over 50 FPS. Model Quantization: Reduced model size by over 60% through quantization for Xilinx FPGA deployment, improving edge inference efficiency. 	

VOLUNTEER

PyTorch Tester & Mentor	Remote
<i>DeepLearning.AI</i>	2025.08 - Present
<ul style="list-style-type: none"> Bug Hunting: Test courses that includes lectures, quizzes, labs and assignments for general and code specific bugs, and report them. Mentorship: Guide learners on PyTorch and deep learning, resolving quiz conflicts, clarifying doubts, and supporting forum discussions in DeepLearning.AI courses. 	
Instructor & Event Organizer	Kathmandu, Nepal
<i>Advanced College of Engineering and Management</i>	2022.03 - 2023.01
<ul style="list-style-type: none"> Workshop: Led hands-on workshops mentoring 100+ peers and juniors in programming and ML fundamentals. Curriculum Development: Developed a structured curriculum covering Python (basic to advanced) and introductory Machine Learning. Techfest: Organized international zonal qualification from Nepal for IITB Techfest. 	

REFERENCES

Prof. Dr. Bal Krishna Bal
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Dr. Gabriel Recchia
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Prof. Dr. Subarna Shakya
Director, Information Technology Innovation Center, Tribhuvan University
Professor, Department of Electronics and Computer Engineering, Institute of Engineering
<i>drss@ioe.edu.np</i>