

EDUCATION	Advanced College of Engineering and Management	Kathmandu, Nepal
	Institute of Engineering (IOE), Tribhuvan University <i>B.E. in Computer Engineering 77.22/100 (Rank: 3 / 96) (First Div.)</i> <ul style="list-style-type: none"> • Advisor: Prof. Dr. Subarna Shakya • Research area: Recommender System and Machine Learning 	2018 - 2023
RELEVANT PUBLICATIONS	<ol style="list-style-type: none"> 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. ACL-IJCNLP, 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. (<i>Joint First Author</i>) [DOI] 	
RESEARCH EXPERIENCE	Manifold Research Group	USA (Remote)
	<i>Open Science Research Fellow</i>	2025.10 - Present
	<ul style="list-style-type: none"> • Software Control Agents: Built and benchmarked LLM-driven software control agents on Mind2Web, conducting systematic comparisons of models (e.g., UITars, Qwen2.5-V) in complex, real-world web environments. • Trajectory Generation: Developed trajectory generation and perturbation pipelines for training and stress-testing agents, enabling robustness evaluation under distribution shifts and unseen task variants. • Analysis of Agent Behavior: Conducted systematic analysis of agent behavior, focusing on spatial reasoning, tool use, and action grounding failures. 	
	Information and Language Processing Research Lab (ILPRL)	Kavre, Nepal
	<i>Research Assistant, Supervisor: Dr. Bal Krishna Bal</i>	2024.07 - Present
RESEARCH EXPERIENCE	<ul style="list-style-type: none"> • Benchmarking: Led the design and release of the NLUE benchmark (12 Nepali NLU tasks), establishing a standardized evaluation suite for low-resource LLMs. • Nepali Corpus for Foundation Models: Assembled and processed 27.5GB Nepali text corpus addressing data scarcity. • Pre-Training and Analysis: Pretrained BERT/roBERTa/GPT-2 with instruction tuning, achieving SOTA on Nep-gLUE; conducted comparative evaluation and error analysis. 	
	Institute for Research and Innovation in Intelligent Systems (IRIIS)	Nepal
	<i>Co-founder & Researcher</i>	2024.12 - Present
	<ul style="list-style-type: none"> • 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 EXPERIENCE	<i>Research Intern, Supervisor: Dr. Gabriel Recchia</i>	2024.06 - 2024.08
	<ul style="list-style-type: none"> • 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. 	

PROFESSIONAL EXPERIENCE	Insyde AI <i>AI Developer</i>	Maryland, USA (Remote) 2025.01 - Present
	<ul style="list-style-type: none"> • LLM-based Agent: Developed LLM-based agent systems for financial workflows, including multi-scenario reasoning, tool use, and automated decision pipelines. • LLM-aided Agent Pipelines: Built agents for end-to-end task execution - data extraction, calculation, validation, and user-facing report/email generation. • Automation: Reduced per-customer processing time by >90%, enabling 10× throughput via agent-driven automation. 	
	Virtly IT & Business Solutions Sarl (ICEBRKR) <i>ML Engineer</i>	Geneva, Switzerland (Remote) 2024.03 - 2024.09
TALKS & PRE- SENTATIONS	<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 <i>ML/CV Engineer</i>	Lalitpur, Nepal 2023.06 - 2024.03
	<ul style="list-style-type: none"> • 3D Object Detection & Tracking: Integrated and optimized SFA3D into ADAS stack, achieving real-time 3D object detection and tracking on embedded platforms. • Model Quantization: Reduced model size by over 60% through quantization for Xilinx FPGA deployment, improving edge inference efficiency. 	
VOLUNTEER	<ul style="list-style-type: none"> • <i>Development of Pre-Trained Transformer-based Models for the Nepali Language, COLING 2025, Oral Presentation.</i> • <i>Consolidating and Developing Benchmarking Datasets for the Nepali Natural Language Understanding Tasks, AACL-IJCNLP 2025, Conference Presentation.</i> 	
	PyTorch Tester & Mentor <i>DeepLearning.AI</i>	Remote 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. 	
REFERENCES	Instructor & Event Organizer <i>Advanced College of Engineering and Management</i>	Kathmandu, Nepal 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. 	
	<p>Prof. Dr. Bal Krishna Bal Associate Dean, Kathmandu University Professor, Department of Computer Science and Engineering, School of Engineering <i>bal@ku.edu.np</i></p> <p>Dr. Gabriel Recchia Director, Modulo Research Ltd <i>gabe@moduloresearch.com</i></p> <p>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></p>	