Jinu Nyachhyon

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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) — 2018 - 2023

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

Publications

1. Gabriel Recchia, Chatrik Mangat, **Jinu Nyachhyon**, Mridul Sharma, Callum Canavan, Dylan Epstein-Gross, Mohammad Abdulbari. Confirmation bias: A challenge for scalable oversight. AAAI-AIA, 2026. (Accepted)
2. **Jinu Nyachhyon**, Mridul Sharma, Prajwal Thapa, Bal Krishna Bal. Consolidating and Developing Benchmarking Datasets for the Nepali Natural Language Understanding Tasks. IJCNLP-AACL, 2025. (Accepted)
3. Prajwal Thapa, **Jinu Nyachhyon**, Mridul Sharma, Bal Krishna Bal. Development of Pre-Trained Transformer-based Models for the Nepali Language. (CHiPSAL) COLING, 2025.
4. Prajwal Thapa, Mridul Sharma, **Jinu Nyachhyon**, Yagya Raj Pandeya. Local Herb Identification Using Transfer Learning: A CNN-Powered Mobile Application for Nepalese Flora. Arxiv Preprint, 2025.
5. Babina Banjara, Jinish Shrestha, **Jinu Nyachhyon**, Rijan Timilsina, Subarna Shakya. Interactive guide assignment system with destination recommendation and built-in chatbox. Journal of Trends in Computer Science and Smart Technology, 2023.

Research

Manifold Research Group — USA (Remote)
Open Science Research Fellow — 2025.10 - Present

- **Software Control Agents**: Developed evaluation scripts for Mind2Web datasets and benchmarked models such as UITars and Qwen2.5-V.

Information and Language Processing Research Lab (ILPRL) — Kavre, Nepal
Research Assistant, Supervisor: Dr. Bal Krishna Bal — 2024.07 - Present

- **Data Collection**: Collected a 27.5 GB Nepali corpus, 2.4× larger than previous resources to address data scarcity for low-resource NLP.
- **Pre-Training**: Pretrained BERT, RoBERTa, and GPT-2 with instruction tuning, outperforming on Nep-gLUE by +2 points and notable gains in Nepali text generation.
- **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

- **Reasoning Models**: Developing and analyzing reasoning-oriented transformer models to improve model interpretability and reliability.
- **Education**: Create visual educational materials on probability theory and CUDA programming, inspired by 3Blue1Brown.
- **In-context Learning**: Investigate the internal mechanisms of in-context learning using circuit analysis and activation probing.

Modulo Research Ltd. — Cambridge, UK (Remote)
Research Intern, Supervisor: Dr. Gabriel Recchia — 2024.06 - 2024.08

- **Automated Analysis**: Built a pipeline to 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)
AI Developer 2025.01 - Present

- **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 10× more requests with improved consistency and response quality.

Virtly IT & Business Solutions Sarl (ICEBRKR) Geneva, Switzerland (Remote)
ML Engineer 2024.03 - 2024.09

- **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
ML/CV Engineer 2023.06 - 2024.03

- **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
DeepLearning.AI 2025.08 - Present

- **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
Advanced College of Engineering and Management 2022.03 - 2023.01

- **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**: Oragnized international zonal qualification from Nepal for IITB Techfect.

References

Prof. Dr. Bal Krishna Bal
Associate Dean, Kathmandu University
Professor, Department of Computer Science and Engineering, School of Engineering
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Dr. Gabriel Recchia
Director, Modulo Research Ltd
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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
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