

Bimal Raj Gyawali

Curriculum Vitae/Resume

Contact, Research, Education, Relevant Coursework, Industry Experience, Key Projects, Presentations, Awards & Honors, Mentorship Experience, Skills

Contact

Email: gyawali.rajbimal35@gmail.com, Website: bimalrajgyawali.github.io

Research

University of California, Los Angeles *Sep 2024 - Present*
Research Student, Supervised by **Prof. Konstantinos Kallas** Remote
Working on automatic synthesis of tool code (like database, external APIs) for LLM agents
Paper under review for **HotOS 25**

Education

Pokhara University, Nepal *Sep 2018 - Aug 2023*
Bachelor of Engineering in Software Engineering
GPA: 3.99/4.0 (Dean's List)

Relevant Coursework

- **Programming Languages (PL):** Principles of Programming Languages (Grade: A), Data Structures and Algorithms (G: A), Analysis and Design of Algorithms (G: A), Mathematical Foundation of Computer Science (Logic, Automata) (G: A)
- **Software Engineering (SE):** Software Testing, Verification, Validation, and Quality (G: A), Applied Operating Systems (G: A), Database Management Systems (G: A), Web Technology (G: A)
- **Machine Learning (ML):** Artificial Intelligence and Neural Networks (G: A), Probability and Queuing Theory (G: A), Numerical Methods (G: A-), Mathematics (G: A-)

Industry Experience

ZakipointHealth *Apr 2023 - Mar 2024*
Software Engineer

- Designed an LLM-driven document automation tool, reducing extraction time from 45 to 6 minutes through a Human-in-the-Loop method.
- Developed a PySpark-based system for 24/7 data processing, doubling efficiency by enabling uninterrupted server operations.
- Deployed Mistral 7B on a secure cloud for HIPAA-compliant use of LLMs.

CodeHimalaya *Sep 2021 - Apr 2023*
Junior Software Engineer

- Built a multi-tenant API middleware, enabling data management across multiple core banking clients.
- Developed a centralized authentication microservice for secure, scalable user management in neo-banking solutions.

Key Projects

Compass AI

Apr 2024 - Sep 2024

Co-founded a startup focused on automated video editing. Developed an AI agent capable of:

- Selecting editing effects autonomously based on context analysis.
- Generating custom editing effects through direct LLM integration.

Peer-to-Peer Lending System

Mar 2023 - Jul 2023

Designed a P2P lending model tailored for Nepal's market, presented to the Economic Research Department, Central Bank of Nepal.

Presentations

AI Agent Architecture, Global AI Community, Kathmandu

Sep 2024

Presented on the architecture of LLM agents, exploring their design, key components, and potential limitations in current applications.

Generative AI in HealthTech, Google Developers Group, Kathmandu

Dec 2023

Gave a talk on practical applications of Generative AI in HealthTech, focusing on privacy-compliant data redaction and self-hosted models.

Loan Slicing and Collaborative Lending, Central Bank of Nepal

Aug 2023

Presented a model for reducing loan defaults through borrower categorization and peer-based lending structures.

Awards & Honors

Dean's List, Pokhara University

2023

Final Year Project Exhibition (Recognized as top 3)

2023

Best Idea Scalability Award, RI Hackathon

2021

Fee Waiver for Academic Excellence, Awarded Each Semester

Mentorship Experience

Hackfest 2023

Mentored participants in refining and executing software project ideas.

API Development with Java Spring Boot

Led a hands-on workshop for 4th semester students, covering end-to-end API design.

Managing Academic Pressures

Provided mentorship to undergraduate students on task prioritization and effective time management.

Skills

Technical Skills

Languages: C/C++, Java, Python, JavaScript, Kotlin

Web: Spring, FastAPI, React, Node

Deployment: AWS, Docker, Git, Linux

Databases: PostgreSQL, MySQL, MongoDB, Neo4J, Redis

Big Data: PySpark, Hadoop, Elasticsearch

AI/ML: NLP, Neural Networks, Vector Databases, Agent Systems

Soft Skills

Adaptability, Proactive, Leadership, Communication, Time Management, Collaborative, Problem Solving