

Adarsha Shrestha

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EDUCATION

Khwopa College of Engineering

BS in Computer Engineering

Libali, Bhaktapur

Graduation Date: June 2026

- Awards: Academic Excellence Scholarship
- Organizations: President of IT Club, Campus Director of Hult Prize at KhCE, SQC Coordinator

Fusemachines

New York, USA

Micro degree in AI

Graduation Date: October 2024

- Comprehensive coursework covering core AI/ML concepts and applications, including: Data Science and Machine Learning, Deep Learning, Image & Object Recognition, NLP, MLOps & Deployment

RESEARCH EXPERIENCE

Subword Tokenization Optimization for Nepali Language: A Comparative Evaluation of Segmentation Strategies

International Conference on Modern Mathematical Methods and High-Performance Computing in Science & Technology

Accepted for presentation, Jan 28–30, 2025

- Developed custom Nepali subword tokenizers using SentencePiece (BPE, Unigram, WordPiece) across 16k, 32k, and 50k vocabulary sizes
- Integrated each tokenizer into GPT-2 models and evaluated using token-to-word ratio, coverage metrics, perplexity, and ROUGE scores on Nepali text generation tasks

Towards Nepali-Language LLMs: Efficient GPT-2 Training with a Nepali BPE Tokenizer

Manuscript in preparation for arXiv, 2025

- Developed a custom Nepali BPE tokenizer using SentencePiece for low-resource settings
- Pretrained a GPT-2–based Nepali language model on 10.75GB of cleaned NepBERTa data and additional web-scraped Nepali news corpora
- Used GPT-3–style training strategies (LR scheduling, batch scaling, FlashAttention) for stable, memory-efficient training

EXPERIENCE

Huawei

Shenzhen, China

Seeds for the Future 2025

June 2025 – August 2025

- Selected among the Top 5 from 650+ applicants to represent Nepal in the regional program in China.
- Gained hands-on training in 5G, AI, and Cloud through Huawei ICT Academy.
- Explored smart energy, governance, and drone technologies driving sustainable innovation.
- Engaged in roundtable discussions with global leaders and cross-cultural exchange with 60 students from 10 countries.

Leapfrog

Seattle, WA

Student Partner 2025

April 2025 – October 2025

- Selected among 20 fellows from over 600 applicants through a rigorous, competitive recruitment process.
- Delivered multiple knowledge-sharing sessions as part of the program.
- Gained exposure to design thinking, agile development, and project management, including tools like Jira.
- Developed expertise in web technologies, clean code practices, agentic AI systems, and QA principles.
- **Capstone Project:** Built a full-stack AI-powered exam preparation platform with an agentic RAG system and automated exam generation/evaluation

Fusemachines

New York, USA

AI Fellow

April 2024 – October 2024

- Developed expertise in Artificial Intelligence, Data Science, and Machine Learning, completing projects that blend academic rigor with practical implementation.

- Worked extensively on end-to-end AI/ML pipelines, from data wrangling to model deployment.
- **Capstone Project:** Built an in-browser proctoring system using multiple AI models to detect cheating in online exams.

CodeYatra 2025

Himalayan College of Engineering, Kathmandu

Winner & Most Innovative Project Award

February 2025

- Developed EcoGrid, an end-to-end smart waste management solution that optimizes waste collection, classification, and energy conversion using data-driven insights.
- Leveraged machine learning and IoT to enhance waste segregation efficiency, enabling smarter decision-making in urban waste management.

X-Hack 3.0

Purwanchal Engineering Campus, Dharan

Best AI Implementation Award

January 2025

- Designed a personalized learning system that adapts to students' pace, enhancing engagement and effectiveness through AI-powered insights.
- Won the Best AI Implementation Award at X-Hack for developing an AI-driven education platform with interactive learning elements.

Hackathon(Dristi 3.0)

Kathmandu Engineering College, Kathmandu

2nd Runner Up

January 2025

- Developed an AI-powered learning platform integrating interactive learning and smart exam proctoring to enhance educational experiences.

Software Competition

Khwopa College of Engineering, Bhaktapur

Best UI/UX Award

December 2024

- Led Team Eventure to win the Best UI/UX Award at the Software Competition – Event Management System, showcasing a seamless and user-centric design.
- Developed an intuitive event management system with real-time hall bookings, automated user notifications, and an efficient admin panel to streamline event organization.

HACKADEMIA 2.0

King's College, Kathmandu

Best Presentation Award

September 2024

- Created an in-browser proctoring system, InvigilAI, integrating multi-modal models for detecting cheating behaviors through eye, head, and sound analysis.
- Conducted an engaging and impactful project presentation, earning the Best Presentation Award.

Kathcode Hackathon

Kathford College, Lalitpur

Winner

July 2024

- Developed a pneumonia detection system leveraging Grad-CAM to provide accurate and interpretable diagnostic insights, reducing diagnostic time significantly.
- Designed and implemented an AI-driven solution that outperformed competitors, leading to the project winning the first-place prize.

Hult Prize at IOE

Pulchowk, Lalitpur

Finalist

February 2023

- Secured a top 10 position out of 70+ applicants by advancing through rigorous proposal screenings and semi-final rounds with *The Green Closet*, a sustainable clothing rental platform.
- Developed a comprehensive business model addressing environmental concerns by promoting reusability and reducing textile waste.

LEADERSHIP EXPERIENCE

Hult Prize at Khwopa College of Engineering

Libali, Bhaktapur

Campus Director

August 2024 - Present

- Managing a dynamic team of 25 members to execute strategic initiatives for the Hult Prize 2024/2025 at the campus level.
- Coordinating event planning and communication to engage over 150 students in workshops and networking opportunities.

- Partnering with professionals and recruiters from diverse organizations to expand outreach and strengthen collaboration for the event's success.

Event Manager

December 2023 - March 2024

- Organized and managed multiple events involving 121+ students contributing 27 projects, 12 of which advanced to the finals.
- Coordinated logistics, communications, and schedules to ensure the smooth execution of events, including ideation workshops and final presentations.

Hack the Circle – Presentation Excellence

Khwopa College of Engineering, Bhaktapur

Keynote Speaker

November 2024

- Delivered a session on "How to Give Powerful Presentations" to 120+ participants, focusing on crafting impactful and memorable presentations for hackathons.
- Shared actionable strategies to improve public speaking, presentation structure, and storytelling, empowering participants to confidently present their ideas.

Knowledge Sharing Session – Design Thinking

Khwopa College of Engineering, Bhaktapur

Keynote Speaker

May 2025

- Conducted an interactive session on "Design Thinking for Innovation" with 80+ participants, emphasizing user-centric problem solving.
- Led hands-on activities covering empathy mapping, idea generation, and prototyping to help participants apply the double diamond approach to real-world challenges.

Knowledge Sharing Session – Agile & Project Management

Khwopa College of Engineering, Bhaktapur

Keynote Speaker

June 2025

- Conducted an interactive workshop for 50+ students, introducing Agile methodologies.
- Delivered hands-on training in Scrum and Kanban frameworks, covering roles and sprint management.
- Guided participants in the practical use of Jira for task creation, assignment, and Kanban boards to simulate real-world project workflows.
- Enabled students to apply Agile principles, improve team collaboration, and develop project management skills aligned with industry practices.

Rotaract Club of Bhaktapur

Bhaktapur

Design Team

June 2023 – June 2024

- Designed promotional materials and campaigns to increase participation and awareness, amplifying community outreach efforts.

CERTIFICATIONS

[Machine Learning Specialization \(Coursera\)](#), [Neural Networks and Deep Learning \(Coursera\)](#), [Crash Course on Python \(Coursera\)](#), [C for Everyone \(Coursera\)](#), [C++ \(Sololearn\)](#), [HTML \(Sololearn\)](#), [Writing in the Sciences \(Coursera\)](#)

SKILLS & INTERESTS

Skills: Programming: Python, JS, C, C++, HTML, CSS | Framework: Git, LangChain, LangGraph, FastAPI | Design: Photoshop, Figma, Canva | AI & Machine Learning: Machine Learning, Deep Learning, NLP, Agentic System Development, RAG Systems | Soft Skills: Leadership, Public Speaking, Team management, Problem-Solving

Interests: AI Research, Agentic Systems, Thanka Art, Marketing & Sales, Public Speaking, Event Organization, Chinese Checkers