

Subhanga Dhungel

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Research Interests

Software engineering and systems research, programming languages and software design, intelligent and data-driven software systems, and applied artificial intelligence. Interested in developing reliable, efficient, and secure software through algorithmic, AI-based, and empirical techniques across diverse application domains.

Education

B.E. Electrical and Electronics Engineering (Communication)

Kathmandu University, Nepal — 2023

CGPA: 3.40/4.00

Relevant Coursework: Linear Algebra, Probability & Statistics, Numerical Methods, Signals & Systems, Digital Signal Processing, Algorithms, Operating Systems

Research & Computational Experience

Undergraduate Research Thesis — GFSK Demodulation of SANOSAT Signal using GNU Radio

- Applied signal processing and computational analysis to demodulate satellite signals
- Evaluated BER, frequency stability, and signal strength under varying conditions
- Compared modulation techniques using empirical and simulation-based analysis

AI & Computational Projects (Independent)

- Built transformer-based systems for text summarization and fact verification
- Designed LLM-powered pipelines for automated text and code generation
- Developed computer vision systems for object detection and motion analysis

Professional Experience

Software Engineer — Cedar Gate Technologies

2024 – Present

- Developed and optimized performance-sensitive software systems
- Analyzed large codebases to identify performance bottlenecks and reliability issues
- Worked with complex data pipelines and production-scale software

Software Developer — ADMC Engineering Pvt. Ltd.

2023 – 2024

- Developed GIS-based systems using Python and React
- Supported data-driven workflows for government-scale applications

Technical Skills

Programming: Python, C/C++, C#, MATLAB

Software & Systems: Software design, program analysis, system reliability

AI / ML: PyTorch, TensorFlow, Hugging Face Transformers, LLM-based systems

Tools: Linux, Git, SQL, Docker

Selected Projects

- Transformer-based summarization and fact-checking systems
- LLM-powered automation for text and document generation
- Software performance analysis and optimization projects