

Shubham Chapagain

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SUMMARY

Computer Engineering graduate with a strong foundation in OOP, databases, and OS. Skilled in Python, machine learning, NLP, and computer vision using frameworks like TensorFlow and PyTorch. Passionate about building impactful AI solutions, especially in the fintech domain.

EXPERIENCE

Summer Research Intern (Part-time)

May 2025 – Present

University of Illinois at Urbana-Champaign (UIUC)

- Conducting research on software engineering and software testing.
- Assisting with deliverables involving code analysis, large-scale datasets, and AI tools.

SKILLS

- **Languages:** Python, C++, JavaScript, C
- **Web Technologies:** HTML, CSS, React, Node.js, Express, RESTful APIs
- **Databases:** MySQL, MongoDB, SQLite
- **Data Science / ML / BI:** TensorFlow, Scikit-learn, Pandas, NumPy, Power BI, Microsoft Excel
- **Big Data:** Hadoop, Google File System (GFS)
- **Cloud / Tools:** AWS, VS Code, Jupyter, Git, Postman
- **Concepts:** Object-Oriented Programming, NLP, Audio Processing, Operating System, Software Development Lifecycle

Education

Bachelor of Computer Engineering

Kantipur Engineering College, Tribhuvan University

2021 – 2025

Received semester scholarships for academic excellence.

Higher Secondary Level (Science)

Skyrider College

2018

GPA: 3.59 / 4.0

School Leaving Certificate

Skyrider Secondary School

2015

GPA: 3.80 / 4.0

Publications

- Shubham Chapagain, “Deep Fake Audio Detection Using a Hybrid CNN-BiLSTM Model with Attention Mechanism,” INJET, 2025. DOI: 10.3126/injet.v2i2.78619

Achievements

- Selected among 2,000+ applicants for a competitive research internship at the University of Illinois Urbana-Champaign (UIUC), contributing to advanced projects in machine learning and software testing.
- Selected for the prestigious **Nepal AI Summer School 2023** by NAAMII, based on merit and strong interest in machine learning research.

- **Semifinalist** at **PolyHack Hackathon 2023**, Hong Kong – competed among international teams on AI-driven solutions.
- Appointed **Campus Ambassador** for the **LOCUS National Tech Festival**, representing and coordinating campus-wide engagement.
- **Organized a 36-hour Hackathon** at LITE Tech Fest 2024 with **12 participating teams**; led logistics, mentorship coordination, and event execution for over **100 participants**.

Projects

Deep Fake Audio Detection

March 2025

Designed and implemented a CNN-BiLSTM model with attention mechanism to classify real vs. synthetic audio. Processed and extracted features (Mel-spectrogram, MFCC) from **196,000+ audio samples** using Librosa, and trained models with TensorFlow, achieving **92% classification accuracy**. Published in the *International Journal of Emerging Trends in Engineering and Technology (INJET)*.

Question Answer Generator using Generative AI

March 2024

Built a question-answering system using the **T5 Transformer** model on the **SQuAD dataset**. Fine-tuned the model to generate multiple-choice questions from contextual input text, enhancing performance in educational applications.

Nepal Mart – E-commerce Platform

January 2025

Developed a full-stack MERN (MongoDB, Express.js, React, Node.js) e-commerce application with product management, user authentication, and secure transactions. Integrated **Redux** for state management and **JWT** for authentication, ensuring efficient and secure user flows.

Library Management System

August 2021

Built a command-line based library management system in C, handling book cataloging, user registration, lending, and return operations through structured file handling. .

Extras

Soft Skills: Communication, Leadership, Problem Solving, Adaptability

Interests: Technology, History, Music, Books