

# Sameep Dhakal

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Website

## EDUCATION BACKGROUND

- **University of Missouri** Columbia, Missouri, USA  
*Data Science and Informatics* August 2024 - Present
- **Advanced College of Engineering and Management, Tribhuvan University** Kathmandu, Nepal  
*Bachelor of Computer Engineering - (78.08 % (Rank 1 out of 48 students))* November 2017- July 2022
- **Sainik Awasiya Mahavidyalaya** Bhaktapur, Nepal  
*High School (Biological Science) - (81.90 % )* June 2015- May 2017

## EXPERIENCES

- **Digital Biology Lab, , University of Missouri- Columbia** August 2024 - Present  
*Graduate Research Assistant (Advisor Dr. Trupti Joshi)* Columbia, Missouri, USA
  - **RNA-Seq Analysis:** Perform RNA-Seq analysis of plant data (collaboration with Prof. Ron Mittler) to identify differentially expressed genes (DEGs), visualize gene expression patterns, and conduct functional enrichment analysis.
  - **Comprehensive Bioinformatics Platform Development:** Design and develop a full-stack bioinformatics platform for gene expression visualization, integrating both single-cell and bulk RNA sequencing data.
  - **Data Visualization and Integration:** Enhance platform functionality by implementing interactive and dynamic visualization tools, ensuring all required analyses and visual representations are available within a unified interface for streamlined biological interpretation.
- **Processfeedback.org, , Adhikari Lab at University of Missouri-St. Louis (UMSL)** June 2023 - August 2024  
*Software Developer (Remote Technical Research Internship)* St. Louis, Missouri, USA
  - **Development:** Enhanced and expanded the software's capabilities to meet evolving requirements, resulting in improved functionality and a more user-friendly experience.
  - **Optimization:** Discover effective methods for obtaining feedback during the writing and coding journey, encompassing data analysis, data modification, and graphical enhancements to optimize the iterative process.
  - **Quality Assurance:** Identify and resolve bugs through thorough investigation, while actively researching and implementing potential solutions to eliminate these issues and improve overall system stability
- **Advanced College of Engineering and Management** November 2022 - July 2024  
*Instructor (Full-time)* Kathmandu, Nepal
  - **Lab Instructor:** Revolutionized lab work with Process Feedback, enhancing learning and boosting pass rates significantly; recognized by Head of Department for innovation and impact, leading to department-wide adoption.
  - **Lecturer:** Inspired the next generation of engineers by teaching, training and overseeing the work of undergraduate students in the crucial areas of **Object Oriented Programming, Data Structure and Algorithms and Simulation and Modeling**, based on the rigorous curriculum of the Institute of Engineering
  - **Project Supervisor:** Catalyzed the next generation of computer engineers by coordinating multiple research projects that incorporate advanced machine learning algorithms, providing guidance and imparting essential concepts to 48 senior undergraduate students to help them complete their projects with greater impact and success
- **BP Eye Foundation - CHEERS Hospital** May 2022 - July 2022  
*Software Engineer (Full-time)* Bhaktapur, Nepal
  - **Rehabilitation Management System:** Improved the quality of life for 100s of **Blind and deaf children** by developing a web application using the Django framework, streamlining processes and providing effective support
  - **Research:** Collaborated with a Public Health research team to explore potential methodologies aimed at improving healthcare accessibility in remote areas of Nepal.
- **Deerhold Nepal Pvt Ltd** March 2022 - April 2022  
*Intern* Kathmandu, Nepal
  - **Data Science:** Strengthened maternal and fetal health outcome by serving as an undergraduate fellow in **Data Analytics**, analyzing vital pregnancy data from hospitals in the USA and providing actionable insights to improve maternal and fetal health
- **PACE-Project Association for Computer and Electronics Advanced College** December 2018 - April 2022  
*Executive Member* Kathmandu, Nepal
  - **Facilitation of skill development courses:** Empowered students with the skills and knowledge necessary for success in the modern world through comprehensive skill-building training, helping them to unlock their full potential.
  - **Assistance with project development:** Nurtured student potential by guiding project selection for tech festivals and inter-college competitions, providing a platform to showcase their skills and drive growth

## PUBLICATIONS

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- **Maximizing Student Engagement in Coding Education with Explanatory AI**  
Paper presentation, IEEE Frontiers in Education (FIE), October 2024, Washington DC, USA
- **scPlantAnnotate: An Accurate and Robust Transformer-Based Model for Plant Cell Type Annotation**  
Submitted, The Plant Cell, 2025
- **Algorithms Comparison in Drowsiness Detection**  
published, Journal of Advanced College of Engineering and Management

## CONFERENCE PRESENTATIONS

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- **Intelligent Recommerce Website**  
Paper Presentation, 4th Science Engineering and Technology Conference (SET-2022) in Kathmandu, Nepal

## CONFERENCES AND WORKSHOPS ORGANIZED

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- **4th national SET conference**  
Organized the 4th Annual National Science Engineering and Technology Conference-2022, and served as the **Master of Ceremony**
- **Revive the Potential of Your Assignments**  
Organized the hour long international workshop to discuss the emerging issue of excessive AI usage in education to showcase a new, free tool called Process Feedback that enables educators to see their students' efforts and individual learning journeys.

## SKILLS SUMMARY

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- **Languages:** Python, C, C++,HTML, CSS, SQL
- **Proficiencies:** Computer Vision, Machine Learning, Natural Language Processing, Data Visualization
- **Frameworks:** Django, NLTK,TensorFlow, Keras
- **Tools:** GIT, MySQL, SQLite
- **Platforms:** Linux, Web, Windows
- **Interpersonal skills:** Leadership, Team-work, Teaching

## HONORS AND AWARDS

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- **Tribhuvan University Merit Based Scholarship**  
Awarded merit-based scholarships for achieving the highest percentage in my Computer Engineering cohort in the 5th, 7th, and 8th semesters, worth \$1000 each semester
- **Letter of Appreciation**  
Earned a Commendation for demonstrating dedication, sincerity, and diligence in my role as Red Color Captain at Sainik Awasiya Mahavidyalaya

## CERTIFICATIONS

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- Obtained certification in **HIPAA for Business Associates**
- Completed a course on **Neural Networks and Deep Learning** through Coursera
- Received a certificate in **Machine Learning and Artificial Intelligence** from Amity Future Academy

## VOLUNTEER EXPERIENCE

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- **Team Everest** May 2021 - June 2021
- *NGO in India*
  - **Creation of educational curriculum:** Contributed to the development of a dynamic English language curriculum designed to empower **underprivileged students** in remote parts of India and provide them with valuable language skills to enhance their future opportunities