

Manish Gyawali

Tansen-01, Palpa, Nepal | manishgyawali1234567@gmail.com | Ph: +977 9842397932

ACADEMIC QUALIFICATION

Tribhuvan University, Advanced College of Engineering and Management , Kathmandu
Bachelor in Computer Engineering *July, 2024*
Percentage: 79.27%

WORK EXPERIENCE

BP Eye Foundation/Hospital for Children, Eye, ENT and Rehabilitation Service(CHEERS) in collaboration with **Nepal Applied Mathematics and Informatics Institute for Research (NAAMII)**

AI Intern *May, 2023 - Feb, 2024*

- Operating since 1991, BP Eye Foundation/Hospital for Children, Eye, ENT, and Rehabilitation Service (CHEERS) is Nepal's first dedicated child-focused hospital offering integrated Eye, ENT, and Rehabilitation services which has now extended it's medical care to remote and underserved regions through innovative AI-driven solutions for disease prediction and telemedicine.
- Certified in AI and Deep Learning, with expertise in Python programming, Git version control, and end-to-end pipelines using Scikit-learn for supervised learning and classification problems.
- Hands-on experience with neural networks, including building models using PyTorch, and working with convolutional neural networks (CNNs) with proficiency in deep learning project management, including checkpointing, experiment tracking, and applying popular CNN architectures for image classification.
- Developed skills in data preprocessing, feature scaling, image transformations, and implementing linear classifiers through iterative optimization techniques.
- Collaborated with a multidisciplinary team of professionals, including Researchers from NAAMII and medical experts from CHEERS, to design scalable solutions for disease prediction like Otitis Media, Otitis media, Oral cancer and Genetic Disorder.
- Led the development of deep learning models for the prediction of diseases like Otitis media, Oral cancer, and Genetic Disorders.

Wiseyak

Machine Learning Engineer/Frontend Developer *December,2024 - Present*

- Developing AI-powered web applications by integrating machine learning models into user-friendly frontend interfaces using React and modern web technologies.

- Collaborating with data scientists and backend engineers to implement interactive visualizations and optimize user experience for AI-driven healthcare solutions.

GC Trade, France

Frontend Developer

Feb, 2024 - Jun, 2024

- Applied advanced concepts of HTML, CSS, JavaScript and React to create a highly intuitive and responsive user interface.
- Collaborated with the team at GC Trade to develop and deliver an informative and visually appealing website meeting business goals and customer needs.
- Conducted comprehensive testing and optimization, enhancing website performance and stability, reduction in load times and a significant boost in overall user satisfaction.

PROJECTS

Tuberculosis Detection from Chest X-ray Images

- Designed and implemented a CNN-based classification model to analyse chest X-ray images for tuberculosis detection, achieving a recall of 0.928, precision of 0.921, and test accuracy of 93%.
- Developed a comprehensive dual-model framework using CNN for classification and YOLO for object detection to identify and annotate tuberculosis-affected regions in the lungs.
- Leveraged advanced machine learning techniques to analyse a medical dataset provided by VinGroup Big Data Institute, enhancing early TB detection for marginalised communities in Nepal.
- Optimised deep learning models for accuracy and efficiency, contributing to a powerful diagnostic tool aimed at supporting healthcare workers in low-resource settings.

Hate Speech Detection using Naive Bayes Classifier

- Developed a text classification model using Naive Bayes, achieving 97% accuracy in detecting hate speech and offensive language from over 48,000 tweets using Kaggle's dataset.
- Preprocessed and cleaned large-scale text data, including stopword removal, stemming, and transforming text into TF-IDF representations for effective feature extraction.
- Optimised feature selection through n-gram analysis (up to 5-grams) to enhance the model's precision and recall for classifying offensive language and hate speech.

Capstone Project: Ocular Disease Classification Challenge

- Developed an Ocular classification model using Densenet-161, achieving 57% accuracy across 1400 samples, demonstrating robust performance in handling diverse ocular disease categories.

- Executed comprehensive classification analysis, delivering detailed metrics including precision, recall, and F1-score for eight distinct disease categories, providing valuable insights into model performance and areas for improvement in ocular disease diagnosis.

Book Recommendation System

- Developed a Book Recommendation System using collaborative filtering, establishing user-book relationships through data preprocessing and sparse matrix conversion to optimize memory and computational efficiency.
- Enhanced recommendation accuracy by implementing clustering techniques on CSR matrices to group users or books with similar characteristics.

Portfolio Management System

- Developed a cross-platform Portfolio Management System using Flutter, incorporating phrase searching and masking features to enable precise skill-matching and collaboration within an organization.
- Designed a collaborative system that enhances teamwork by allowing efficient management of portfolios, enabling seamless integration of organizational members for skill-sharing and project execution.

WORKSHOP & TRAININGS

- Participated in 'HEX Genius Hackathon' organized by the Himalaya IT Club of Himalaya College of Engineering, July 2023.
- Participated in a 5-day webinar on 'Generative AI' organized by the Research and Innovation Unit of Advanced College of Engineering and Management, February 2024.
- Completed a course on Deep Learning for Medical Image Classification (consisting of 100 hours of lectures and 100 hours of lab sessions) conducted by Nepal Applied Mathematics and Informatics Institute for research (NAAMII) in coordination with BP Eye Foundation, May, 2023 to February, 2024

AWARDS & ACHIEVEMENTS

- **Secured first place** in the Python Bytes competition, organized by Advanced Robotics Club, by recreating a classic maze game, showcasing innovative design and functionality using Python, 2021.
- **Awarded a merit-based scholarship** in recognition of outstanding academic performance at the conclusion of each semester.

SKILLS

- Technical: C, C++, Python, Machine Learning, Deep Learning, PyTorch, Numpy, Pandas, Matplotlib, SciPy, Scikit-learn, Git, Github, JavaScript, React, MySQL
- Design Tools: Canva, Figma
- Languages: Nepali, English, Hindi