Sandesh Aryal

B.Tech. | NIT Rourkela

Final Year, Electronic and Communication & Engg.
DOB: 18 03 2002
Contact: +91 8093310368
Email.: sandyaryal16@gmail.com

Education

2021-2025
B.TECH., ECE
NIT Rourkela
CGPA : 7.07/10

2018-2020
INTERMEDIATE
Shree Amarsingh Higher Secondary School, Pokhara
CGPA: 3.00/4

2018
MATRICULATION
Shree Amarsingh Higher Secondary School, Pokhara
CGPA: 3.6/4

Links

Github:// **Sandesh Aryal**
LinkedIn:// **SandeshAryal**

Technical Skills

PROGRAMMING
Python, C/C++

FRAMEWORK AND LIBRARIES
NumPy, Pandas, Seaborn, OpenCV, Matplotlib, Keras, Tensorflow

TOOLS
Anaconda, VS Code, git, GitHub, Jupyter Notebook

DATABASES
MYSQL

LANGUAGES
English, Hindi

Courswork

Data Structures and Algorithm
OOPS
Machine Learning
Database Management Systems
Digital Electronics

Work Experience

May 2024 **Summer Research intern at NIT,Rourkela** **Intern**
- •Developed a deep learning-based white blood cell classifier, achieving an excellent accuracy of 99.57% by incorporating channel and spatial attention mechanisms.
- •Implemented advanced image preprocessing and data augmentation techniques, significantly enhancing the model's performance in multi-class classification.

Dec 2023 **Winter intern at Nepal Telecom** **Intern**
- • Engaged in comprehensive hands-on training across multiple telecom domains, including Wireless (GSM BTS, BSC, MSC), Transmission (Microwave, DWDM), and Power Systems (Battery, Rectifier, Solar).
- • Contributed to deploying and troubleshooting advanced network technologies, such as Optical Fiber (FTTH), and PSTN, enhancing overall network efficiency and reliability.

Key Projects

2024 **White Blood Cell Classification** **Python, Deep Learning**
- • Developed an advanced image classification model for white blood cells using transfer learning with a pre-trained backbone network (MobileNetV2, Xception, DenseNet, and ResNetV2) with an accuracy of 99.57% using Xception net.
- • Created a novel architecture combining pre-trained features with custom attention layers for improved performance on the WBC classification task.

2024 **Image Classification using MLP** **Keras, Tensorflow**
- • Trained multiple deep multilayer perceptron (MLP) models with TensorFlow, achieving an average test accuracy of over 98.5% on the MNIST dataset by optimizing hyperparameters, activation functions, and dropout rates.
- • Implemented model evaluation techniques using cross-validation, resulting in a 15% reduction in variance between training and test accuracies across 5 distinct architectures.

2023 **Home Automation using ESP-32** **IoT**
- • Developed and implemented a comprehensive home automation system utilizing ESP32 microcontroller, enabling seamless control of various components through a custom-built web application, enhancing user convenience and energy efficiency.
- • Integrated sensors and actuators for real-time monitoring and control, enhancing the smart home experience.

Achievements/Certifications

2021-Present **Full Ride Scholarship for 4-year B.Tech program**
June 2023 **Rank 10 in KIMO's-Edge'23 Tech Competition**

Extra Curricular Activities

2023 - 2024 **Captain, Volleyball Team** **NIT, Rourkela**
2022 - 2023 **Core Team, VRIDDHI** **NIT, Rourkela**