Kamlesh Rana Bhat

Pokhara, Nepal | kranabhat.krb@gmail.com | +977 9842271260 | kamlesh-kd.github.io

linkedin.com/in/kamlesh-rana-bhat/

OBJECTIVE

Aspiring Computer Science professional specializing in medical image analysis, prognostic predictive models, and radiomics. Proficient in medical image processing with a solid foundation in developing AI-driven solutions for Medical diagnosis. Seeking opportunities to apply my skills in a dynamic environment, contributing to AI for medical innovations.

EDUCATION

Bachelor of Engineering (B.E) - Computer Engineering   2019 – 2024
Institute of Engineering, Tribuvan University
Kathmandu, Nepal

SKILLS

Languages: Python, C++

Libraries: PyTorch, TensorFlow, NumPy, Scikit-learn, Pandas, Open-CV, Flask, Seaborn

Machine learning: Feature Engineering, Optimization, Modeling, EDA, Contrastive Learning, Medical Image Processing, Deep Learning

Tools: Git, Excel, VS Code, Jupyter Notebook, Conda, Microsoft Office, Heroku

Soft Skills: Problem-Solving, Communication, Mass Presentation, Leadership, Team Collaboration, Creativity

RESEARCH EXPERIENCE

Research Assistant   2024 - Present
NepAI Applied Mathematics and Informatics Institute for Research (NAAMII)

- Medical Image(CT image) analysis for tumor detection and prognosis
- Spatial segmentation of tumor and it's localization
- Medical Image Processing

Undergraduate Research Student   2023 - 2024
Pashchimanchal Campus, Tribhuvan University

- Research on Medical Diagnosis using AI in collaboration with 4 different hospitals in Nepal
- Data-collection and surveys with patients at hospital (437 patients)
- Collaborate and coordinate with faculty, doctors, health workers and medical staffs for data validation
- Conference Presentation at Gandaki University International Conference-January 3-5, 2024

PAPER AND PUBLICATIONS

- **K. Ranabhat**, I. P. Paneru, I. Sharma, and K. Pathak. *Early Stage Diagnosis of Diabetic Retinopathy using Nested U-Net Architecture*. Under review at *Health Informatics Journal*.

PROJECTS

Early Stage Diagnosis of Diabetic Retinopathy Using Deep Learning.

- Image processing of "Fundus" images (CLAHE enhancement and Detail Preservation)
- Blood vessel segmentation for RoI extraction using Nested U-Net architecture L4 with mean Intersection over Union (IoU) of 0.73 and a loss of -0.52
- Stage classification of DR using RoI extracted with an accuracy of 95.41%
- Dataset used: APTOS database

Non-Invasive Detection and Stage Classification of Anemia in Pregnant Women in Nepal Using Image of Conjunctiva of the Eye.

- Data collection with coordination with 4 different hospitals of Nepal from 437 different patients
- Data labeling and Image processing
- RoI extraction i.e Conjunctiva of the eye using U-Net architecture
- Stage classification of Anemia using extracted conjunctiva of the eye with an accuracy of 81.30%
- Model validation with real patients using mobile application

AWARDS AND ACHIEVEMENTS

- **University Grant Commission – Mini-Research Grant (2023)**
  Awarded for the project '**Anemia Detection in Pregnant Women in Nepal Using Deep Learning**'
- **OpenStreetMap(OSM) Hackfest, Runner Up (2023)**
  Awarded for the Best **Tours and Travels Managaement WebApp** with AI integrated recommendation system.

REFERENCES

Taman Upadhaya, PhD
Adj. Research Scientist
NAAMII
taman.upadhaya@naamii.org.np

Nabin Lamichhane
Assistant Professor and DHoD
Department of Electronics and Computer Engineering
IOE, Pashchimanchal Campus
(+977) 9846751608
babunabin@wrc.edu.np

Krishna Raj Adhikari, PhD
Associate Professor and Coordinator at RMU
Department of Applied Sciences
IOE, Pashchimanchal Campus
(+977) 9856029007
adhikarikrishna@wrc.edu.np