AAYUSH KUMAR

KP-9C,KIIT UNIVERSITY, Bhubaneshwar,Odisha,India
+91-7388118855◇ aayushk61466@gmail.com◇ Website

CAREER OBJECTIVE

My research interests are interdisciplinary lying at the intersection of deep learning, computer vision, biomedical imaging and AI for Healthcare. I am motivated and passionate about AI for social good with an aim to become an avid researcher mostly focused in the domain of Computer Vision and Biomedical Imaging.

EDUCATION

Bachelors of Technology (Computer Science and Engineering) 2017 - 2021
KIIT University, Bhubaneshwar CGPA : 9.75/10

Class XII (CISCE) 2016
Little Flower School, Gorakhpur CGPA : 95.00%

Class X (CISCE) 2014
Little Flower School, Gorakhpur CGPA : 94.00%

EXPERIENCE

Project Intern at IIT Bombay December 2019-Present
Working on oral cancer detection using Mask R-CNN and development of mobile app for data collection from PHCs under Prof Amit Sethi, ECE Department, IIT Bombay.

Summer Research Intern at IIT Kharagpur May 2019-June 2019
Worked in the development of a computer-aided diagnostic tool for classification of lung nodules in CT images using computer vision techniques under Prof. Dr. Sudipta Mukhopadhyay, E&ECE Department, IIT Kharagpur.

Course coordinator at E-labs November 2018-Present
I am working as a course coordinator to teach Machine Learning. E-Labs is a student technical forum which was started in 2015 to provide learning experience to fellow students in the various technical fields.

PROJECTS

Retinal vessel segmentation using FCN
Segmentation of blood vessels was carried out on DRIVE dataset. Only green channel of the input image (RGB) was fed to FCN consisting of six convolutional layers and one each of max pool and up sampling layer. The accuracy achieved was 0.95% and area under the curve (AUC) was found to be 0.972 thereby outperforming most of the previous literature works.

Anterior Cruciate Ligament(ACL) tear classifier
Build a classifier for ligament tear classification using Alexnet on MRNet dataset released by Stanford ML group. Data augmentation was done to deal with less examples.The AUC achieved was 0.858 on train set and 0.876 on validation set.

CAD system for detection of malaria infected blood smears
The model is deployed on zyik.ml using AWS EC2 instance. Designed a low end convnet to accurately classify malaria infected blood samples. Validation accuracy achieved was 95.6%.The model works on par as compared to state of the art Resnet-18 network, due to which model can be run on mobile devices.

Spinal cord gray matter segmentation
Implemented a U-net for image segmentation in PyTorch.The GM spinal cord challenge dataset was used which contains the MRI images of the brains.MediaTorch library was used for pre-processing transformation of images.

ACHIEVEMENTS

1- Selected as one of the 30 delegates all over India for Community based Healthcare solutions track to attend the Design, Technology and Social Innovation Workshop-2020 organised by MIT and Harvard University under MIT India Initiative.
2- Awarded a travel grant to attend the 7TH NATIONAL CONFERENCE ON COMPUTER VISION, PATTERN RECOGNITION, IMAGE PROCESSING AND GRAPHICS, NCVPRIPG-2019 by Intel and IIIT Hyderabad as part of IDD challenge..
3- Selected to participate in the APIA International Innovation Accelerator Camp in Beijing, from July 21 to August 2, 2019, as one of the 120 entrepreneurs from all over the world with a partial scholarship offer.

COURSES UNDERTAKEN

Deep Learning specialization(Coursera)
Machine Learning (Coursera)
Introduction to computer vision (Udacity)

TECHNICAL SKILLS

Languages	: C, C++, Python
ML frameworks	: PyTorch, TensorFlow, TFLite, OpenCV, Scikit learn
Web-Designing	: HTML, CSS, Flask, Nginx
OS	: Windows, Linux(Ubuntu)
IDE	: Visual Studio Code, Jupyter Notebook
CLOUD	: AWS

CO-CURRICULAR ACHIEVEMENTS

Campus ambassador for Techkirti-19, IIT KANPUR.
Campus ambassador for Alchirenga19, IIT GUWAHATI.
Top 10 campus ambassador for Blitzchlag19, MNIT JAIPUR.
LCA General Secretary in Little Flower School.

PERSONALITY TRAITS

Goal Oriented.
Adaptable to crucial situations.
Easy coping up with team members.
Works well under pressure.
Fluent communication skill