Anubhav Agrawal

□ +91 7024 880 719 | @ anubhavagr.mail@gmail.com | ♥ GitHub | ♥ Bangalore, India

EDUCATION

Bhilai Institute of Technology

Bachelor of Technology - Computer Science

2019 - 2023

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EXPERIENCE

Imaging Innovation Technologies Pvt. Ltd.

Image Quality Engineer Intern

Nov 2022- present

- Working on Image Stitching for fluoroscopy images
- Built an algorithm for enhancing images of Digital Subtraction Angiography(DSA)

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Computer Vision Intern

Sep 2022- Dec 2022

- Worked on Multi-processing file balancers, Image Stitching, Video summary image generation
- Researched on Real-time Object dimension measurement, Foreign Object Debris

International Institute of Information Technology, Naya Raipur

Summer Intern

 $May-June\ 2022$

- Supervised by **Dr. Shailesh Khapre**
- Worked on Real-time Smoking and Spitting detection
- Techniques applied Deep learning, Data Augmentation, CNN, Transfer learning, Fine-tuning, Mixed Precision
- Tech stack Python, Fastai, Tensorflow, OpenCV, Matplotlib

Personal Projects

Universal Image Steganalysis | Python | GitHub

- Built a neural network model for detection of stego images
- Fine-tuned some standard dnn architectures like Resnet, VGG etc using fp8 and MixedPrecision training
- Incorporated Ensemble Learning
- Tech stack Python, Pytorch, Fastai

Time-Series Forecasting of NDVI for GUJRAT | Python | GitHub

- Trained Gradient Boosting models for time-series forecasting
- Used NDVI data from AWIFS, MODIS and SENTINEL satellites
- Tech stack Python, XGBoost, CatBoost, LightGBM

Legal judgement text summarizer | Python | GitHub

- Implemented huggingface summarization pipeline
- Customizable length summary generated of given input
- Tech stack Python, Pytorch, HuggingFace, Colab

Condio - a lossless to lossy audio converter | Python | GitHub

- Parallized version of audio format conversion capable of using all CPU cores available
- Supports audio formats like:- WAV, FLAC, M4A with variable bitrate
- Tech stack Python, Ffmpeg, Glob, Multiprocessing

Bengali Font Classification | Python

- Dataset CMATERdb3.1.2 containing images of bengali alphabets
- Trained using *Transfer learning* technique
- Fine-tuned a convolutional neural network(resnet34 arch)
- Accuracy on unseen test set 98.96%
- Tech stack Python, Fastai, OpenCV

Neural Style Transfer | Python | GitHub

- Implementation of paper titled "A Neural Algorithm of Artistic Style" by Gatys et al. (2015)
- Built using VGG-19 architecture
- Takes two images as input i.e Content image and Style image
- Generates new image by blending contents of content image in style of style image
- Tech stack Python, Pytorch, OpenCV, Matplotlib, Numpy, Pillow

TECHNICAL SKILLS

Programming Languages: Python, C, MATLAB, C++

Libraries(Python): Fastai, Pytorch, Tensorflow, Numpy, Pandas, Scikit-learn, OpenCV, Matplotlib

EXTRA-CURRICULARS

1st Runner-up Smart India Hackathon 2022

Winner Brainstation India Ideathon 2021

Machine Learning Lead at Google developer scholars club (GDSC BITD) 2021-22

Online Certifications and Specializations

Edx:

MIT 6.86x: Machine Learning with Python-From Linear Models to Deep Learning

Coursera:

Generative adversarial Networks (GANs) specialization

AI for Medicine Specialization by deeplearning.ai

Deep Learning Specialization by deeplearning.ai

TensorFlow Developer Professional Certificate deeplearning.ai

NVIDIA Deep Learning Institute:

Fundamentals of accelerated computing with CUDA Python