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Harsh Rathod

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Undergraduate pursuing Bachelors in Information Technology with a research interest in Artificial Intelligence and Computer Vision.

PROJECTS

Augmented Face Detection API for Professional Image Approval

07/2021

- The app finds the number of **faces**, **blurriness** of the **image**, **obstruction on the face**, etc., and gives a score.
- Used **Deep Learning** as well as **Classical Image** processing to achieve a goal that was faster than only Deep Learning approaches.
- Made in 24 hours for HackRx 2.0 hackathon by Bajaj Finserv.

Machine Learning Portal IECSE

05/2021 — 06/2021

- A portal for IECSE the official CS club of MIT, Manipal to conduct ML related competitions.
- Worked on the backend for a web application developed on **FastAPI** with **mongoDB** as database.
- The portal also uses JWT Tokens for authentication.

Hand Gesture and Finger Detection

01/2021 — 02/2021

- An OpenCV-based application for finger detection using only **Image Processing** and **OpenCV**.
- Used **thresholding**, **contours** and **convex hull** to find the defects in the contours and find the number of fingers.

Car Classification using Transfer Learning

06/2020 — 07/2020

- Made a car classifier to classify different car brands.
- Used **Resnet50 in Keras** to implement an image classifier using **Transfer Learning**.

XCI-Sketch: Extraction of Color Information from Images for Generation of Colored Outlines and Sketches

06/2021 — 08/2021

- Worked on rendering colored outlines using **unsupervised clustering** and **image processing** methods and developed a web application using **Streamlit** for perceptual study.
- Paper also included using a Generative Adversarial Network to generate colored sketches from previously unobserved images.
- [Demo](#)

EXPERIENCE

Executive Board

07/2021 — Present

[IECSE Manipal](#)

Manipal Institute of Technology

The official computer science club of Manipal Institute of Technology

- Leading a group of 120+ students and having a member base of 1800+ members.
- Organized workshops, events, and the annual tech fest "Prometheus"
- The aim of promoting technical knowledge and uplifting the technical culture of the institute.
- Mentored juniors during projects and workshops.

Member in AI Divison

02/2021 — Present

[The Research Society Manipal](#)

Manipal Institute of Technology

The Research Society is Manipal's official student research body that works on an array of research projects, covering a broad span of fields, from artificial intelligence and robotics to nanotechnology and immunology.

- Contributed in **Computer Vision** Projects.
- Participated in different discussions related to Research.
- Mentored juniors starting out in Research.

Organizer, Cryptoss

10/2020 — 11/2020

[TechTatva'20](#)

Manipal Institute of Technology

TechTatva is the official Tech Fest of Manipal Institute of Technology

- Was in the Cryptoss category of TechTatva'20.
- Helped organise **Enigma a Machine Learning** Competition under Cryptoss.
- My work included collecting Dataset, framing storyline and hosting it on Kaggle.

EDUCATION

Bachelor of Technology, Information Technology

2019 — 2023

Manipal Institute of Technology, CGPA: 8.66/10

Class XII, AISSCE

2017 — 2019

in Chemistry, Physics, Computer Science, Mathematics,

KV 1, Ishapore, Percentage: 95%

Class X, AISCE

2017

KV 1, Ishapore, CGPA: 10/10

TECHNICAL SKILLS

Technical Skills

Machine Learning, Deep Learning, Image Processing, Backend Development

Languages

Python, C++, Java, OOP, DSA

Frameworks

FastAPI, Tensorflow, SkLearn, Pandas, Numpy

PUBLICATIONS

1. Priyanshu, A., Das, V. R., Rajiv Moghe, S., **Rathod, H.**, Medicherla, S. S., Shail Chhabra, M. & Shastri, S. Stance Classification with Improved Elementary Classifiers Using Lemmatization (Grand Challenge). *2020 IEEE Sixth International Conference on Multimedia Big Data (BigMM)* (2020).
2. **Rathod, H.**, Varma, M., Chowdhury, P., Saxena, S., Manushree, V., Ghosh, A. & Khose, S. XCI-Sketch: Extraction of Color Information from Images for Generation of Colored Outlines and Sketches. *CoRR* (2021).

AWARDS

Ranked first in HackRx by Bajaj Finserv [link](#) (07/2021)

- HackRx is the Annual Hackathon hosted by Bajaj Finserv.
- Used Deep Learning as well as Classical Image processing to achieve a goal that was faster than only Deep Learning approaches.
- Made an api that takes in image and gives the required output.

Rank 68 of 846 Univ.ai Hackathon 1 GHF Fellowship [link](#) (04/2021)

- The Geoffrey Hinton Fellowship (GHF) for Artificial Intelligence is a preeminent platform for emerging talent in AI to demonstrate their talents and win cash awards and gain access to world-class internship, employment, and research opportunities.
- Ranked among the top 10% people who participated in the Hackathon.
- Ranked 2 from Manipal Institute of Technology.

Ranked first in Innovation Series Hackathon by GitHub [link](#) (08/2021)

- A Hackathon under the Code Innovation Series organised by the ICT dept of Manipal Institute of Technology in collaboration with GitHub.
- Created a NLP solution to search for keywords in a pdf.
- Worked on integrating the backend and frontend.
- Awarded the first prize.

CERTIFICATES

Deep Learning Specialization by deeplearning.ai(2020)

- Neural Networks and Deep Learning
- Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization
- Structuring Machine Learning Projects
- Convolutional Neural Networks
- Sequence Models

Machine Learning by Stanford University(2020)

- Single and Multivariable Linear and Logistic Regression
- Neural Networks: Representation, Learning, and Regularization
- Support Vector Machines
- Unsupervised Learning, Dimensionality Reduction and Anomaly Detection
- Recommender Systems, Large Scale Machine Learning and Application