



# MAHESHWAR KUCHANA

RESEARCH INTERN

## OBJECTIVE

I am a Research-oriented person & ardent learner, keeps updated with cutting-edge technologies and utilize my skills for the growth of the organisation

## SKILLS

- TensorFlow
- CNNs
- Deep Learning
- Computer Vision
- OpenCV
- Machine Learning
- Python
- Flask API
- Medical Image Processing
- AWS Cloud
- MySQL
- Git
- Beautiful Soup
- Selenium

## NOTABLE ACHIEVEMENTS

- Got Funded Rs. 10000 for AI solution for COVID-19 using CT-scans, X-rays
- Winner of Computer Vision Challenge in Off Campus Hack by Skillenza
- Won 2nd Prize in Hack Infinity CTF Competition held by Cyber Square
- Stood in 5th position in Hackathon conducted by Alibaba

## SOCIAL DETAILS:

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LinkedIn:

www.linkedin.com/in/maheshwarkuchana

Portfolio: www.maheshwark.com

## WORK EXPERIENCE

### Research Intern - Computer Vision

Adventum Advanced Solutions | May 2019 - present

- AI for Disease Diagnosis (Diabetic Retinopathy, Glaucoma, AMD) using OCT, Fundus images in Ophthalmology.
- Developed PACS software which integrates to AWS and CT modalities
- Designed deep learning architectures for Semantic segmentation, Anomaly detection, Classification, Auto Encoders for Medical Images.
- Dealt with classical Computer Vision techniques like Denoising, Segmentation, Registration, Restoration.
- Worked on Flask API's, TensorFlow, OpenCV, Scikit image frameworks.

### Summer Research Intern - Machine Learning

BML Munjal University | May 2018 - July 2018

- Developed Fingerprint verification module with machine learning techniques.
- Worked on classical computer vision and ML to match fingerprints.
- Proposed a new way to focus on Region of Interest to reduce computation in verifying fingerprints with existing database.

## ACADEMICS

### BML Munjal University - GPA (8.25 / 10)

B.Tech. Computer Science & Engineering, 2016 - 2020

## PROJECTS

### Diagnosing COVID-19 with CT-scans, X-rays

- Created Deep Learning architectures for finding biomarkers in 3D CT-scans, X-rays to diagnose COVID-19.
- Achieved 95% accuracy, 91% Specificity, 93% Sensitivity.
- Got funding from Promotehour.com of Rs. 10000
- Implemented Risk Analysis with 3D volumetric analysis in CT-scans.
- Verified platform performance with couple of Radiologists.

### Fooling Neural Networks

- Developed ways to fool neural networks to function as per our wish
- Modifying weights and biases, Backdooring, Extracting information are the techniques used for this purpose to hack them.

### Lymph Node (Lymphoma) Cancer detection

- Using Histopathological images of lymph node of humans, a CNN deep learning architecture is employed to classify between tumorous and non-tumorous tissue.

### Retinal Vessel Segmentation in Fundus Scans

- Semantic Segmentation of vessels and arteries in retinal fundus scans gives details for a doctor to analyse few eye diseases. Implemented LadderNet, a CNN-based neural network architecture.

### Behavioural Recognition - Real time

- Implemented face, emotion, pose estimation to find attendance, behaviour of students in class. Post analysis is done from the data. Implemented using python, Deep learning algorithms. Deployed on university's server.