

Muskan Goyal

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Education

2017–Present **Maharaja Agrasen Institute of Technology**, New Delhi, India
B.Tech in Computer Science and engineering
Coursework: Computer Networks, Artificial Intelligence, Database Management Systems, Software Engineering, Theory of Computation, Algorithms Design and Analysis

Research Experience

- 2020 **Maharaja Agrasen Institute of Technology**, New Delhi, India
Undergraduate Researcher, collaborated with college professors and professors from Near East University, Mersin, Turkey and State University of Ceará, Brazil.
- Proposed and implemented a GAN called CovidGAN that generated synthetic chest X-ray images to enhance the performance of CNN for Covid-19 detection. The research aimed at improved Covid-19 detection and more robust radiology systems.
 - Published paper in IEEE Access
 - Frameworks: Python (Keras)
- 2019 **Maharaja Agrasen Institute of Technology**, New Delhi, India
Undergraduate Researcher, collaborated with college professors and professors from Cairo University, Egypt and Edge Hill University, Lancashire, England.
- Designed and implemented an optimized DenseNet model which has been contrasted with the current CNN architectures by considering two (time and accuracy) quality measures. The study indicated that the performance of the optimized DenseNet model was close to that of the established CNN architectures with far fewer parameters and computation time.
 - Published paper in Computers and Electronics in Agriculture, Elsevier.
 - Frameworks: Python (TensorFlow and Keras)

Publications

- 2020 Abdul Waheed, **Muskan Goyal**, Deepak Gupta, Ashish Khanna, Fadi-Al-Turjman, P. Rogerio Pinheiro. “CovidGAN: Data Augmentation using Auxiliary Classifier GAN for improved Covid-19 Detection” Published in IEEE Access, volume 8, 91916-91923.
[LINK](#)
- 2020 Abdul Waheed, **Muskan Goyal**, Deepak Gupta, Ashish Khanna, Aboul Ella Hassanien, Hari Mohan Pandey. “An optimized dense convolutional neural network model for disease recognition and classification in corn leaf”. Published in Computers and Electronics in Agriculture, Elsevier.
[LINK](#)

Projects

- 2019 **Image Caption Bot** ([github](#))
- Used a CNN+LSTM based model architecture to generate captions that aptly describe images.

- 2019 **Image Generation using GAN and DCGAN** ([github](#))
 - Generated images of handwritten digits (mnist) with GAN and DCGAN
- 2019 **Visualising Convnets** ([github](#))
 - Used a VGG16 model on a cat image to see the output of some of the intermediate convolution and their corresponding activation layers
- 2019 **Sentiment Analyser** ([github](#))
 - Used NLP skills to build a sentimental analyser with deep learning on IMDB dataset.
- 2020 **Cropify Application** ([github](#))
 - A mobile application that can identify 5 types of crops using only field photo of the crop. The photo and crop information along with live geo-location is stored in firebase realtime database.

Achievements

- 2018 Google India Challenge Scholar for Android Track (Udacity)
- 2019 Grand Finalist in Smart India Hackathon 2019 ([certificate](#))

Responsibilities

- 2020 **Volunteer at ICDAM** ([certificate](#))
International Conference on Data Analytics and Management
 - Part of the management team, anchor, and reviewed papers.
- 2020 **Volunteer at ICICC**
International Conference on Innovative Computing and Communication
 - Part of the management team

Certifications

- 2019 **Machine Learning Trainee at Coding Blocks**, Pitumpura, Delhi ([certificate](#))
Course Contents: Regression, SVM, Decision Trees, Naive Bayes, Deep Neural Network, CNN, RNN, LSTM, GAN
- 2020 **Android Development Trainee at Coding Blocks**, Pitumpura, Delhi ([certificate](#))
Course Contents: Activities and Basic UI Building, Adapters and ListViews, Intents, Fragments, ViewPagers and Navigation Drawer, Services, Permission Management, Menus and Preferences, Data Storage and 3rd party Libraries.

Skills

C++, Python (TensorFlow, Keras, OpenCV, Sklearn, Matplotlib, Numpy), MATLAB, Android Development, HTML, CSS

References

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