Shashank Kirtania

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EDUCATION

Thapar Institute of Engineering and Technology

Computer Engineering

7.48/10 upto 6th semester

COURSEWORK

Artificial Intelligence
Machine Learning
Probability and Statistics
Numerical Analysis
Optimisation Techniques
Design and Analysis of Algorithm
Data Structure
Discrete Mathematics
Database Management System
Operating Systems
Computer Networks
Introduction to Cyber Security
Cyber Forensics
Secure Coding
Network Programming
Computer Organisation Architecture
Software Engineering

SKILLS

Docker, TensorFlow, Keras, OpenCV, mlflow*, PyTorch*, Python, MATLAB, R, Shell Scripting*, Socket programming

C/C++, Linux, L^{A}T$_E$X, GIT,

Dart, Flutter, Flask, Arduino, Raspberry pi

LINKS

Github: 5hv5hvnk
Kaggle: shashankkirtania
LinkedIn: shshankkirtania
CodeChef: shashank1608

OTHER INTERESTS

- 3 star programmer on CodeChef, 5 star in DSA, Python, C++
- Developed multiple apps using flutter and firebase
- Keen interest in cyber security
- Worked on multiple IOT projects using Arduino and Raspberry pi

EXPERIENCE

Google Summer of Code
Contributor at PyMC | May 2022 - Present

Contributor at PyMC a library for probabilistic machine learning. Working on developing a deployment pipeline to deploy PyMC models under Thomas Wiecki. Working on deployment of models on various deployment tools like Docker, Sagemaker, Dask.

Indian Institute of Technology, Delhi
Research Internship | Jun 2022 - Present

Working with Dr. V V K Srinivas on a project related to **Time Series Analysis** and implemented various models like for time series predictions.

Indian Institute of Information and Technology, Allahabad
Research Internship | Jun 2021 - Mar 2022

Worked with Dr. Javed on compressed domain of JPEG2000 image, used TensorFLow Keras to make Convulsion Neural Network for classification of images using their Discreet Wavelet Transform Coefficients retrieved during compression of images using High throughput JPEG200. ***(Work under review)***

Segmented semi compressed images using their DWT Coefficients, worked on data augmentation using GANs.

Bennet University
Research Intern | Aug 2021-Dec 2021

Worked with Dr. Suneet Gupta and Dr Ekta Walia (University of Saskatchewan) on data augmentation of MIAS dataset using GANs

PROJECTS

Adversarial Attacks on CNN classification model
Adversarial, Computer Vision | August 2021
Developed a Convolutional Neural Network for classification of images and attacked the same network with a gradient based perturbation which uses gradient tape to disrupt the predictions of neural network. The attack successfully reduced the accuracy of CNN from 98.33% to 4.74% after the attack. [repo]

Captcha Reader
Optical character recognition, Computer Vision | July 2021
Improved and trained a model to read text captcha using Convolutional Neural Network and Recurrent Neural Network to crack captchas using OCR, This model specialises in reading images with strikes out characters or distorted characters. [repo]

Federated Learning model on MNIST dataset
Decentralised Learning | August 2021
Developed a decentralised Artificial neural network model by dividing dataset among 10 clients and used their parameters to train a global model with 96+ % accuracy in 30 epochs. [repo]

DeepFake Classifier
DeepFake detection, Computer Vision | May 2021
Implemented a DeepFake classifier on images using MesoNet, created a Convolutional Neural network to compute the binary classification model. Implemented the same model for videos on a **Kaggle contest.** [repo]