

Shashank Kirtania

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EDUCATION

Thapar Institute of Engineering
and Technology

Computer Engineering

7.47/10 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^AT_EX, GIT, Arduino,
Raspberry pi

LINKS

Github: [5hv5hvnk](https://github.com/5hv5hvnk)

Kaggle: [shashankkirtania](https://kaggle.com/shashankkirtania)

LinkedIn: [shashankkirtania](https://www.linkedin.com/in/shashankkirtania)

CodeChef: [shashank1608](https://www.codechef.com/users/shashank1608)

OTHER INTERESTS

- 3 star programmer on CodeChef, 5 star in DSA, Python, C++
- Developed multiple apps using flutter and firebase
- Keen interest in cybersecurity
- 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](#)]