SHUBHAM SHARMA

shubhamsharma2000310@gmail.com | Website | Linkedin | GitHub |

Skills

Languages

English | Hindi | Punjabi

Programming

Python | C | C++ | Java| HTML | CSS | JavaScript | Git

Softwares

VS Code | Github | OpenCV | Matlab | Notion

Deep Learning Frameworks

Pytorch | Tensorflow | Keras| Fastai

Hobbies

Reading | Badminton | Cricket

Soft Skills

Teamwork | Leadership

Education

Maharaja Surajmal Institute of Technology,GGSIPU,New Delhi, India

Bachelor of Technology - CGPA: 9.665

Computer Science & Engineering

Aug 2018 - Present

Kendriya Vidyalaya, New Delhi, India

Class XII (CBSE) - Score: 95% (best of 4)

2015 - 2017

Class X (CBSE) - CGPA: 10

2014 - 2015

UG Courses

Applied Mathematics (I-III) (Matrices & Calculus
Complex Analysis & Differential

Internships

Indira Gandhi Delhi Technical University for Women, India – *Intern*

Organized by: Center of Excellence-AI, IGDTUW and Anveshan Foundation (Prof. Arun Sharma)

Project : Coloring of Old Black and White Images

June 2021 - July 2021

- In image colorization, a subset of COCO dataset id used which includes 15000 images.
- The strategy used is the image to image translation with Conditional Adversarial Networks which uses two losses L1 loss and GAN loss. which helps to solve the problem in an unsupervised manner (by assigning the outputs a number indicating how “real” they look).

Sabudh Foundation – *Data Science Intern*

Guide: Dr. Sarabjot Singh Anand (Co-Founder,Tatras Data)

Project : Proactive Policing

July 2020 - December 2020

- We have been provided with accidental data reported of various police stations in Punjab province, India.
- First task was to build an interactive dashboard so that police can easily vizualize incidents taking place at different intervals of time and to get insights from it. D3.js framework is used in this. Hypothesis testing was also performed on three different hypothesis using chi-square test and t-test
- Second task was to find out the vehicle density information at those places which are prone to accidents.
- Implemented a model to detect number plate of vehicles and also to recognize the characters displayed on it.
- For number plate detection on indian roads, we had used customized training using transfer learning. For this purpose, YOLO version v3 and v4 has been used. Yolo v4 achieves state-of-art results at a real time speed on the MS COCO dataset with 43.5% AP running at 65FPS on Tesla V100.

Verzeo Pvt. Ltd (Bangalore), India - *Remote Intern*

Project: Music Genre Recognition

May 2019 - July 2019

- The dataset which was used is GTZAN Genre classification dataset consisit of 1000 audio tracks, each 30 sec long.
- It contains 10 genre each represented by 100 tracks. Firstly, features have to be extracted from raw audio data and then we have to train the model. The CNN algorithm is used for model building and training.
- Reference: cs229

Equations
Probability Theory & Random Processes)
Numerical Analysis and Statistical Techniques
Artificial Intelligence
Data Structures
Algorithms Design and Analysis
Computer Organization and Architecture
Compiler Design
Operating Systems (Linux Programming and Administration)
Computer Networks
Software Engineering
Theory of Computation
Database Management Systems
Object Oriented Programming

Online Courses

Udacity
- Deep learning Nano Degree

Coursera (IBM Data Science Specialization)
- Machine learning with Python
- Data Visualization with Python
- Databases and SQL for Data Science

Achievements

Microsoft Technology Associate

Succesfully passed the Technology Associate exam by microsoft in Python Programming.

Acedemic Excellence Award

Awarded with acedemic excellence award in very first year of my tertiary education. Secured first rank in Computer Science and Enginering in m college as well in the university itself. The sum of 15000INR is also awared.

KVS Acedemic Award

Awarded with acedemic excellence award and cash prize of 5000INR in 10th standard by then HRD Minister of Government of India, Smt. Smriti Irani.

National Science Olympiad

March 2015

Participated in National Science Olympiad and secured 2nd rank in my school.

Projects

Automated Image Captioning using CRNN

A Convolutional-Recurrent Neural Network (a combination of CNN and LSTM), trained on the MS COCO dataset, to caption images. As the model generates captions, word by word, its gaze (attention) shifts across the image. This allows it to focus on those parts of the image which is more relevant for the next word to be generated. Furthermore, beam search is used during inference to suppress suboptimal captions.

Face Landmarks Detection using CNN

A neural network trained to localize facial landmarks. The model was trained on the DLib Dataset containing 6666 face-images along with corresponding 68-point landmarks for each face. Additionally, a custom data preprocessing pipeline is written in PyTorch to increase variance in the input images to help the model generalize better.

Diabetic Retinopathy (Inception based)

Diabetic Retinopathy is the leading cause of blindness in the working-age population of the developed world. It is estimated to affect over 93 million people.
The goal is to make a retinopathy model by using a pretrained inception v3 as a base and retraining some modified final layers with attention.

Satellite Imagery Feature Detection

The aim of the project is to build a model to detect and classify the types of objects found in the satellite imagery data which consist of 1km x 1km satellite images in both 3-band and 16-band formats. The 3-band images are the traditional RGB natural color images. The 16-band images contain spectral information by capturing wider wavelength channels.

Extracurricular and Voluntary Experience

Technothon 1.0 – *Participant (Went upto 3rd Round)*

Organized by Department of Computer Science & Engineering, Amity University, Mumbai (1st July- 4th july, 2021)

Participated there with my team of 3 members including myself. We had made a wesite for farmers named as **“Kisan Sarthi”**. There we had provided three solutions for the problems faced by farmers. Disease Identification, crop suggestion and Macro-nutrient suggestion were the three aspects of the project.

International Conference on Articial Intelligence and Application - *Organized by Springer at Maharaja Surajmal Institute of Technology (6th February - 7th February, 2020)*

Participated there as a volunteer. Managed the organization of the

22nd National Children's Science Congresss – Intra-Regional Level

November 2014

Crossed school level and went through regionals in this event organized at KV AGCR Colony, Delhi on topic Understanding Weather & Climate Change.

Regional Sports Meet , Delhi Region (KVS)

September 2014

Participated in Regional sports meet and secured 1st positon as a team event in Badminton and also qualify for nationals (KVS).

conference and helped the student organising committee members.

Shalem Pentecostal Church of God (Regd) - *Community Contributor (March, 2021)*

Handled various issues of the community especially in COVID times. Distribute food items and clothes to poor people who can't afford these basic utilities.

HackNagpur - *Central's India's Largest Community Hackathon (26th December - 30th December, 2020)*

It is a hackathon hosted for creative people like designer, data experts, and developer. A special track called "open innovation" was also included in it. Our team had made a project in this new track and for people who can't able to see through their eyes. We had made a web app in which two people can do video chat based on their language which is a sign language. So whenever a person made a gesture , it's equivalent text is displayed on the screen.

Shalem Pentecostal Church of God (Regd) - *Community Contributor (July, 2020)*

Handled various issues of the community and helped people by guiding them for the solution. Usually as a community there, we aim to improve the lives of Orphan children, Leprocy Affected, slums, Drunkyard and abandoned people.