# Sahil Bharodiya | B. Tech CSE [2020-24]

+91 9173661451 | sahilbharodiya2002@outlook.com

Being a quick learner, I am able to work in any circumstances. Not only well managed data, I am also comfortable in dirty and unstructured data. I always keep myself up to date with the latest tools, technologies, and trends.

## Skills and Abilities

### Programming Languages:

C (Intermediate)

C++ (Advanced)

Python (Advanced)

### Technologies:

Machine Learning (Advanced)

Computer Vision (Advanced)

Natural Language Processing (Intermediate)

Neural Networks (Advanced)

Time Series Analysis and Forecasting (Advanced)

### Tools:

Microsoft Office (Word, Excel, PowerPoint)

Microsoft Visual Studio Code

Git and Version Control

Linux Commands and System

Apart from these, I also learned other AI topics like Graph Neural Networks, Object Detection, and Tracking, Sequence to Sequence models, Generative Adversarial Networks. My main interest is AI on the topic related to healthcare, agriculture, science and computer vision. And I also wrote the ML algorithms from scratch in Python.

## Projects

**Covid-19 Detection through chest CT scans (Computer Vision, Deep Learning, AI in Health) – [Associated with IIIT Sonepat]**

In this project, a trained Neural Network predicts whether a person is Covid-19 positive or Negative using his/her chest CT scans. With an accuracy of 91.35%.

**Early Diabetes Prediction (Deep Learning, AI in Health) – [Self]**

A Simple DNN based model predicts diabetes in early stages based on age, gender, polyuria, polydipsia, sudden weight loss, weakness, polyphagia, genital thrush, visual blurring, itching, irritability, delayed healing, partial paresis, muscle stiffness, alopecia and obesity. With an accuracy of 96%.

**Estimating Aqueous Solubility Directly from Molecular Structure (AI in Drug Discovery) – [Self]**

Predicting log of solubility LogS based on molecule's Wildman-Crippen LogP value, molecular weight, number of rotatable bonds and aromatic proportion.

**Brain Tumor Detection (Computer Vision, Deep Learning, AI in Health) – [Self]**

A complex neural network will detect the tumor present in MRI images of patients. With an accuracy of 94%.

**AI-based real-time identification of Crop Nutrient Disasters in agricultural crops (Computer Vision, Deep Learning, AI in Agriculture) – [with FOSS4Gov and VJHackethon]**

To develop an intelligent system for the detection of nutrient deficiency in major crops taken in a local area.

**Detection of Criminal Activities/Criminal through CCTV by analyzing live footage for melee, mob formation, the body language of the suspect, etc. (Deep Learning, AI in Security)– [Self, SIH2022 Problem Statement]**

The state CCTV Control Room receives feeds from a number of CCTV Cameras across the state. It is not possible to monitor all the camera feeds in a live scenario. The solution Should be capable of reading the feeds being received from the cameras and analyzing the feeds for any criminal activity. I developed an ML model that identifies many activities like robbery, Abusing, Vandalism, Burglary, etc. from real-time CCTV footage.

**Malicious URL detection (Natural Language Processing, AI in Cyber Security) – [Self]**

Detecting malicious URLs from chat links, document links, etc.

**Face Mask Correct Position Detection (Computer Vision, Deep Learning) – [Self]**

A python program will detect whether the person in CCTV footage wears a mask correctly or not. With an accuracy of 98%.

**Tracking object by drawing box around it in Real-Time (Computer Vision) – [Self]**

A python program for tracking objects in real-time by drawing a box around them.

**Daily Covid cases prediction in India (Time-series forecasting, Deep Learning) – [Self]**

I have created a Deep Learning model that predicts the daily number of covid cases in India. The model takes inputs as previous 100 days cases and trends. I also tested this on real-time data and received a mean absolute error of about 0.004 in normalized form.

My project list will not end here. It's very long. From the second semester of my academics, I am working on projects and participated in many competitions on Kaggle and Hackathons. I also participated in DRDO's Dare to Dream 3.0 contest on the topic of "Developing an intelligent system for tracking people's health risks and immunity for fighting genetic or bio war".

## Education

P.P. Savani Vidyabhavan — Up to Higher Secondary, Surat

Indian Institute of Information Technology Sonepat — B. Tech CSE [2020-2024], Sonipat

## Online Courses and Certification

Machine Learning [Stanford University - Coursera]

Master The C language [Udemy]

Deep Learning [IBM]

Applied Data Science [IBM]

Problem Solving Basic [HackerRank]

Problem Solving Intermediate [HackerRank]

## References

**Dr. Diddi Kumara Swamy**

MSc (Tech), PhD (NIT Warangal)

Department of Mathematics

Indian Institute of Information Technology Sonepat, IIT Delhi Technopark, Rajiv Gandhi Education City, Rai, Sonipat, 131029

+91 9849677353

diddi.k@gmail.com