Kunal Kumar Sahoo

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Education

Pandit Deendayal Energy University **2021 – 2025**
*B.Tech in Computer Engineering (CGPA: **9.96**)* *Gandhinagar, Gujarat*

Kendriya Vidyalaya No.1, Gandhinagar **2014 – 2021**
*Class XII (Percentage: **94.8%**)* *Gandhinagar, Gujarat*

Technical Skills

Languages: Python (NumPy, Pandas, Matplotlib, Scikit learn, Tensorflow, Keras, MediaPipe, OpenCV), Java, C, C++, Dart, MySQL
Developer Tools: VS Code, Jupyter Notebooks, Google Colab, Android Studio, ViM, SolidWorks, TinkerCAD
Technologies/Frameworks: Linux, GitHub, Flutter, Flask, Arduino, Raspberry PI

Experience

SLoP 2.0, DA-IICT **Oct 2022 – Present**
Open source contributor *Remote*

- Worked on the project **Finding data from Permanent Shadowed Regions**
- Tech-stack: Python (NumPy, Pandas, Matplotlib), OpenCV .
- Utilizing the concepts of **Image Processing**, **Machine Learning** and **Deep Learning** to find data in the permanent shadowed regions by processing OHRC images
- Developing a Python script to generate **.tif images** from the data provided by **Indian Space Science Data Centre**

Encode, PDEU **August 2022 – Present**
App Developer *Gandhinagar, Gujarat*

- Develop **Cross-platform mobile applications** for other departments and clubs in university.
- Use **Flutter** which is a framework on Dart language developed by Google.
- Currently developing a **full-stack** mobile application for the quiz club in a **team** of 3 people.
- Collaborated with team members using version control systems such as **Git** and services like Trello to organize modifications and assign tasks.
- Utilized **Android Studio** as a development environment in order to develop and test the working of the applications.

Cretus, PDEU **August 2021 – Present**
Technical member *Gandhinagar, Gujarat*

- Develop **robots** and **IoT gadgets** for various kinds of competitions and exhibitions.
- Use technologies like **Arduino**, **Raspberry Pi**, **Linux**, and softwares like **Arduino IDE**, **SolidWorks** and **TinkerCAD** for developing projects.
- Currently building a **miniature Mars rover** for the technical fest of the university.
- Have conducted workshops on **Getting started with Arduino Development**
- Previously built competitive robots like **Line-following robot**, **Maze solver**, etc.

Projects

SitRight | *Python, MediaPipe, OpenCV, SQLite, Raspberry Pi* **July 2022**

- Developed a Python-based **IoT device** that connects to monitors and alerts user when bad sitting posture is maintained too long at **Pythakon'22 hackathon** held at CHARUSAT.
- Implemented the solution on a Raspberry Pi which can connect to user's workstation (Desktop/Laptop) wirelessly.
- Used **OpenCV** for extracting image frames from video feed and **MediaPipe** to detect and skeletonize human body from the image and determine key points
- Developed a simple **mathematical model** to determine angle of inclination between the back and neck and used **Machine learning algorithms** to classify the posture as 'Good' or 'Bad' and send alert messages and report to user's workstation

Face-Mask-Detection | *Python, Tensorflow, OpenCV* **January 2022**

- Developed a Python software that can classify in **real-time** whether a person is wearing a mask or not
- Implemented **MobileNetV2** architecture which contained **convolution layer** with 32 filters, followed by 19 **residual bottleneck filters**
- Used **Kaggle** dataset for training the model