

KUNAL KUMAR SAHOO

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SKILLS

| | |
|------------------------------|---|
| Programming Languages | Python, Julia, R, Java, C/C++, Bash, Latex, MATLAB |
| Databases | MySQL, MariaDB, SQLite3, MongoDB |
| Libraries/Frameworks | NumPy, Pandas, Matplotlib, OpenCV, PIL, Tensorflow, Keras, PyTorch, NLTK, Transformers, Streamlit, Flask, Librosa |
| Developer Tools | GNU/Linux, Git, Arduino, Raspberry Pi, Robot Operating System, Jupyter |

EDUCATION

B.Tech in Computer Engineering, Pandit Deendayal Energy University 2021 – Present
CGPA: 9.89

EXPERIENCE

Junior Research Fellow July 2023 - Present
Pandit Deendayal Energy University *Gujarat, IN*

- Working on Fault identification for Sucker-rod pumps by application of DL algorithms on Pump cards
- Working at School of Petroleum Technology, PDEU
- Project is sponsored by **Bosch**

Research Intern June 2023 - August 2023
Jio, RIL *Remote, IN*

- Exploring 3D geometry, skinning and rigging
- Working on **3D Facial reconstruction** for application in Metaverse
- Primary focus on **Mesh representation of 3D shapes** and its implementation in Python3

Research Intern May 2023 - June 2023
Indian Institute of Technology, Kharagpur *West Bengal, IN*

- Working under Prof. Shyam Das Mandal from Advanced Technology Development Centre
- Working on L1 (native language) identification from L2 (non-native language) speech using **Speech processing** and **Deep learning**
- Using IISc LEAP's NISP dataset for model training
- Studying trustability of models by incorporating **Explainable AI**

Student Researcher October 2022 - Present
Pandit Deendayal Energy University *Gujarat, IN*

- Working under Dr. Debabrata Swain from Dept. of Computer Science Engineering
- Developing real-time posture monitoring system from edge devices using Computer Vision and Machine learning
- University-funded and applied for provisional patent

ACHIEVEMENTS

- 2 projects have been **filed for patent** from Pandit Deendayal Energy University
- Won **150K INR** cumulatively in **Robofest 3.0**, organized by GUJCOST, Govt. of Gujarat
- Second runner-up at **EnCode hackathon** at IIT Guwahati sponsored by Bosch

- Grand finalist of **Azadi ka Amrit Mahotsav hackathon** organized by SSIP, Govt. of Gujarat

PROJECTS

Nyx : Developing a self-driving robot using only cameras for environmental sensing and using ROS for software simulations. The road detection algorithm and steering algorithm made us win 3rd prize in EnCode hackathon held at IIT Guwahati, sponsored by Bosch.

Mask Police : Developed a Deep learning model capable of detecting whether a person is wearing face mask or not in real-time, using MobileNet V2 architecture.

NLP 101 : A simple NLP Web App built using streamlit capable of Text summarization, Named entity recognition, Sentiment analysis, Context-based question answering and text completion. Developed this project while taking a workshop on ML deployment for polytechnic students.

SolarPY : Developed a library in Python3 capable of rendering 3D visualizations of planetary motions around the sun using Matplotlib. Developed simulations of Solar system and binary star system.

StockPY : Developed a dashboard to retrieve **S&P500** and its corresponding closing price using Yahoo finance API, and Streamlit. Won first prize in the Data Analytics hackathon organized by ACM-PDEU chapter.

CO-CURRICULAR

President

June 2023 - Present

Cretus, Pandit Deendayal Energy University

- Cretus is the **robotics club** of Pandit Deendayal Energy University
- Have taken part in many robotics competitions
- Conducted various workshops for robotics for students
- **Projects:** Maze solving robot, Line follower, obstacle avoider, swarm rovers, soccer bots, self-driving car (currently in development)

GDSC Lead

2023 - Present

Google Developer Student Club, Pandit Deendayal Energy University

- GDSC is a student chapter which popularizes google technologies amongst students of the university
- Taught students how to get started with Deep Learning using Tensorflow
- Mentored students for 30-Days Google Cloud Program
- Attended developer conferences like GDSC WoW and GDG DevFest

AI/ML Head

2023 - Present

Encode, Pandit Deendayal Energy University

- Encode is the computer science club of Pandit Deendayal Energy University
- Conducted events where I enriched students with hands-on experience in the domain of Application Development and Machine Learning
- Took part in various hackathons where I have integrated Machine learning and delivered ML-solutions to the problem statements.
- Mentored students during HacktoberFest 2022
- **Projects:** Unsupervised Spotify song recommendation engine, SDG-goal mapping, SnapChat filter implementation using dlib

Vice Chairperson

2023 - Present

ACM Student Chapter, Pandit Deendayal Energy University

- Responsible to build a healthy student developer community in the university
- Organizing various workshops, events to explore and popularize fundamentals of CS and new technologies
- Popularize services provided by ACM for students