GAURAV MODAK

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EXPERIENCE

Project Intern | Validus Analytics LLP , Pune **(June'21-June'22)**

- Built and optimized Tiny Machine Learning (TinyML) models for deep learning applications in Edge A.I. world.
- Used Edge Impulse platform to collect the data required and to build a deep learning model for Air Gesture classifier of 0-9 digits with 87% accuracy and deployed it on the development board (Microcontroller) for live inferencing.
- Developed dashboards through Node-Red and Streamlit to analyze the live data displayed on them received by a variety of sensors.
- Learned to create and record datasets and clean them using data pre-processing techniques.
- The Deep Learning and Machine Learning models were based on the applications of 3 v's which are used in Industry 4.0 (Vision, Vibration, Voice).
- Coordinated with the team for creating optimum solutions which strengthened my collaboration in the work.

Summer Intern | Perpetual Gravity Labs Pvt. Ltd, Navi Mumbai **(Jan'21 – Mar'21)**

- Worked in a team project to make a Wheelchair Controller using hub motor for helping physically disabled humans.
- Gained knowledge to use different sensors and programmed them using C language to be able to use on Arduino Uno.
- Analyzed the data received in time series format in a graphical format to understand the data more thoroughly.

EDUCATION

BE in Mechanical Engineering | University of Mumbai CGPA:8:8 | (Aug'19-May'22)

Diploma in Mechanical Engineering | MSBTE, Maharashtra 84.43% | 2016

PROJECTS

Edge A.I. Based Solar Panel Robot Assistant (Industry Sponsored)

- Built a Deep-Learning model for image-based classification for 5 classes of solar panel images.
- Trained the model for 45,0000 images consisting of 5 different classes. Gained an accuracy of 98% on training data and validation data with a loss of 0.038 for 10 epochs.

Punch Flex Movement Classification

- Collected accelerometer and gyroscope data(200+ data points per class) through Micro-controllers, displayed live reading on tiny OLED screen, developed and trained Artificial Neural Network on model on 602 epochs for Punch or Flex movement classification.
- Converted model using tensorflow lite micro in order to deploy on microcontroller.
- Achieved an accuracy of 96% and deployed the model on web using streamlit for live inferencing.

Performed EDA of Different Datasets

- Exploratory Data Analysis (EDA) and sales analysis on sales dataset using data manipulation and data visualization libraries.
- Performed EDA on US Accidents and plotted most accident prone areas in the USA on a live earth map using folium.

SKILLS

- Programming Language : C++ , Python , HTML , CSS
- Database : MySQL and SQL Queries
- Data Manipulation Tools : Pandas , Excel
- Data Visualization Tools: Matplotlib, Seaborn ,Power BI.
- Technologies : Edge A.I , Deep Learning, Machine learning, CAD Design, Arduino
- Dashboards : Node-Red , Streamlit