

# MADHUSREE RANA

Durgapur, West Bengal, India

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## Technical Skills

1. **Languages:** Python, HTML, CSS, JavaScript, SQL, NoSQL, JSON
2. **Frameworks/Libraries:** React.js, Node.js, Express.js, MongoDB, Django, Tailwind, Numpy, Pandas, OpenCV
3. **Developer Tools:** Git, Nginx, Linux, Netlify, VS Code, Google Colab, Jupyter Notebook, PyCharm, MS Excel

## Experience

1. **Aivot AI** July 2023 – August 2024  
*Associate Software Engineer* Kolkata, West Bengal
  - Developed and designed an end-to-end web application along with API integration and deployed it - **MERN, FastAPI, Bootstrap, Nginx, Certbot**
  - Built a feature extraction algorithm on soil images that identified key soil characteristics - **Python, OpenCV, Numpy, Pandas, Matplotlib**
  - Developed a model to predict the pH of soil from soil images - **Multiple Correlation, Machine Learning, Regression**
  - Engineered a computer-based ECG graph from physical reports, reducing the interpretation time for analyzing patient data - **K-means Clustering, Interpolation, OpenCV, Numpy**
2. **Keysight Technologies** April 2022 – June 2023  
*Research and Development Intern* Kolkata, West Bengal
  - Designed, developed and containerized an end-to-end web application – **Flask, Docker, Nginx, Linux, MySQL**
  - Fixed and published misconfiguration errors related to ISIS protocol – **C++, Linux**

## Education

1. **Techno International New Town** July 2019 – June 2023  
*B.Tech in Information Technology - 9.07 CGPA* Kolkata, West Bengal
2. **Hem Sheela Model School** 2019  
*XII (CBSE) - 89.8%* Durgapur, West Bengal
3. **Carmel Convent High School** 2017  
*X (ICSE) - 86.8%* Durgapur, West Bengal

## Personal Projects

1. **Portfolio Website** | *React.js, Tailwind CSS* | [Portfolio](#) 2024
  - A responsive website demonstrating my skills, work experience, education, projects, and achievements
1. **Simon Game Web App** | *Javascript, Bootstrap, Netlify* | [Simon Game](#) 2024
  - A simple responsive web application along with instructions for playing the fun and engaging Simon Game
2. **Optical Character Recognition (OCR)** | *Python, pytesseract, Tkinter, OpenCV* 2022
  - Takes screenshot on the PC or from any video and extracts the text written in it inside a text file
3. **Hand Gesture Recognition** | *Python, Mediapipe* 2022
  - Recognizes, from real-time video, up to 5-6 gestures shown by the human hand
4. **Document Scanner** | *Python, OpenCV* 2021
  - Returns a scanned black-and-white image of any printed or handwritten document
5. **Virtual Paint** | *Python, OpenCV* 2021
  - Forms layer(s) of colour(s) as per the movement of colour pen(s) in front of the webcam
6. **AI Desktop Voice Assistant** | *Python, Speech Recognition, Pyttsx3, Pyautogui, Wikipedia* 2020
  - A bot that can speak and recognize human speech, and perform nearly 10 different types of tasks on the PC as per the voice queries of the user

## Awards and Achievements

1. **Topper in NPTEL Soft Skills Course** 2019  
*IIT Kharagpur*
  - Awarded by IIT Kharagpur for being one of the toppers, among 3700+ certified participants all across the country, in the course of Soft Skills offered by IIT Roorkee through NPTEL