Vaibhav Raheja

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# Education

## Mukesh Patel School of Technology Management & Engineering, Mumbai, India

Bachelor of Technology Computer Engineering (CGPA - 3.63/4) Relevant Courses: Robotics, Embedded Systems, and AI

## Mukesh Patel School of Technology Management & Engineering, Mumbai, India

Diploma in Computer Engineering

# Professional Experience

## AIIMS (All India Institute of Medical Sciences) Hospital, New Delhi, India

Research Intern

Working on a research project to implement Robotic Oral Surgery using a robotic arm and develop control systems using ROS and python for the robot

Project funded by the ICMR (Indian Council of Medical Research)

## Granuler: CIO Consulting, Mumbai, India

Intern

Project CRM (Customer Relation Management Implementation) Deployed a CRM system for Granuler CIO Consulting.

Collected client requirements and fulfilled them using HubSpot CRM. To improve the company's workflow by 70%.

Project RPA (Robotic Process Automation)

Used UiPath to automate the CEOs workflow by reducing the time to less than 30 mins

## Intelligence Node, Mumbai, India

QA Intern

Learned the basics of web applications, understood beta testing and executed tests on multiple web applications.

# Academic Projects

## Chronic Disease Detection System using Machine Learning

B. Tech Final Year Project

Developed an expert system used to predict various chronic diseases by collecting various health details of a patient using Machine Learning models to provide a helping hand to doctors.

Validated the model with an accuracy of over 90%

Implemented for: COVID-19, Pneumonia, Heart Disease, Chronic Kidney Disease, Diabetes

## Home Automation

Developed a complete system to control most electronics from a mobile phone or using voice commands on google assistant.

Achieved this using ESP-8266 microcontroller. Some electronics include Lights, fans, Air conditioners, and RGB-controlled lights.

## Soft Robotics Hand

Developing a Soft Robotics Hand controlled by stepper motors that will be able to grab almost any object

It reads my hand's position using OpenCV and replicates it onto the robotic hand. The future scope is to assist doctors in holding specific tools during surgery.

## Skin Disease Detection

Created a machine learning model by using Transfer Learning with CNN (Convolutional Neural Network) to detect over 20 Skin Diseases with an accuracy of 90%

# Publications

## Multi-Disease Prediction System using Machine Learning

IEEE International Conference on Futuristic Technologies (INCOFT)

2017 – May 2023

Expected 2017 – 2023

Feb 2021 – Feb 2023

Jan 2020 – May 2020

Jul 2018

2021 – 2022

2020

2022

2019

2022

# Extra-Curricular Activites

## Intelligent Ground Vehicle Competition, Detroit MI, USA

Vice-Captain

Achieved 3rd place at an annual international competition hosted at Oakland University, Michigan, in which multidisciplinary teams compete to create an autonomous vehicle according to a set of rules in order to compete. Developed a fully functioning autonomous vehicle with object detection, path planning & traversal.

## Rotaract Club of Bombay Airport, Mumbai, India

Board of Director of Club Service from 2020-21

Managed and initiated all Club Service activities, supervised and coordinated the work of the committees appointed for particular aspects of Club Service and ensured the smooth and effective running of the club, and created a climate and culture that made our club inviting, appealing, and attractive.

## e-Yantra Robotics Competition (eYRC), Mumbai, India

Participated in a competition held by IIT Bombay. Our task was to make a drone for the delivery of parcels.

## The Editorial Project by MPSTME, Mumbai, India

Head of Logistics

Managed and organized a concert by The Local Train at JRM Grounds

## Lane Detection using Hough Transform and Histogram

Wrote an article to explain lane detection using computer vision using the Hough Transform. This article has approximately 400 reads.

## Roller Hockey, Mumbai, India

Team Captain

Achieved 3rd place in a National Level Roller Hockey Tournament in Haryana.

2020 – 2022

2019 – 2021

2020 – 2021

2019 – 2020

2019

2012 – 2013

# Technical Skills

## Programming

Python C++ ROS

Machine Learning

## Micro-Controller Boards

Arduino Raspberry Pi

**Software** Fusion 360 MS Office