Vaibhav Raheja

Portfolio | vaibhavraheja32@gmail.com | +1(217)-202-9970 | Vaibhav Raheja | Vaibhav-Raheja

Education

University of Illinois at Urbana-Champaign, *Master's Degree* Aug 2023 - Aug 2024
Major: Autonomy and Robotics

NMIMS' MPSTME, *Bachelor's Degree and Diploma* Jul 2017 - Jun 2023
Major: Computer Engineering CGPA: 3.18/4

Skills

Programming: Python, C++, Robot Operating System(ROS), OpenCV, PyTorch
Tools: Autodesk Fusion 360, Linux, Git, UiPath, VSCode

Work Experience

All India Institute of Medical Sciences (AIIMS) Hospital, *Research Intern* Feb 2021 - May 2023

- Collaborated with a multidisciplinary team on the development and execution of a pioneering research project funded by the Indian Council of Medical Research (ICMR), resulting in a 15% reduction in surgery duration and a 20% increase in surgical precision.
- Played a pivotal role in the design and assembly of a custom two-directional catheter and mouthpiece integrated with a camera system, contributing to a successful intubation.
- **Technologies Used:** Python, 'xArm 5' robotic arm, Machine Learning, Robot Operating System (ROS), 3D modeling

Granuler: CIO Consulting, *Intern* Jan 2020 – May 2020

- Successfully implemented a CRM (Customer Relation Management) system using HubSpot CRM, streamlining workflow and increasing efficiency by 40%
- Automated CEO's tasks using UiPath for Robotic Process Automation (RPA), resulting in at least 20% saving in resourses.
- **Technologies Used:** HubSpot CRM, UiPath (Robotic Process Automation, RPA)

Projects

Intelligent Ground Vehicle Competition (IGVC), *Co-Captain* 2021 – 2023

- As Co-Captain of Team D.A.R.V.I.N at IGVC, I provided dynamic leadership in this prestigious international robotics competition held in Detroit, USA. Our team achieved impressive 2nd and 3rd place rankings in the highly competitive Cyber and AutoNav Challenge categories, demonstrating our excellence in autonomous vehicle navigation in challenging environments.

Chronic Disease Detection System using Machine Learning | (*Python, Pytorch, CNN*)

- Achieved over 90% accuracy in predicting chronic diseases such as COVID-19, Pneumonia, Heart Disease, Chronic Kidney Disease, and Diabetes.

Soft Robotics Hand | (*Arduino, 3D Modelling and Printing*)

- Developed a Soft Robotic Hand controlled by Stepper and Servo motors.

Custom Surveillance Drone | (*Arduino, 3D Modelling and Printing, ESC Controller, Pixhawk*)

- Built a custom surveillance drone with a modular 3D-printed body and 1200KV BLDC motors which is controlled using a Pixhawk Flight Controller.

e-Yantra Robotics Competition (eYRC), 2020 - 2021

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

Skin Disease Detection | (*Python, CNN*)

- Developed a machine learning model using Transfer Learning and CNN, achieving 88% accuracy in detecting various skin diseases.

Home Automation | (*Arduino*)

- Designed a system to control home electronics using mobile phones and voice commands with Google Assistant.

Publications

Raheja, Vaibhav et al. (Nov. 2022). "Multi-Disease Prediction System using Machine Learning". In: *International Conference on Futuristic Technologies (INCOFT)*. URL: https://ieeexplore.ieee.org/document/10094382.