

Vaibhav Raheja

Portfolio | Email: vaibhavraheja32@gmail.com | Phone: +1(217)-202-9970 | LinkedIn: Vaibhav Raheja | GitHub: 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 resources.
- **Technologies Used:** HubSpot CRM, UiPath (Robotic Process Automation, RPA)

EXTRA-CURRICULAR

Intelligent Ground Vehicle Competition (IGVC), *Co Captain* 2021 - 2023
- Led team to 2nd and 3rd place in the Cyber and AutoNav Challenge, demonstrating proficiency in autonomous vehicle navigation.

e-Yantra Robotics Competition (eYRC), 2020 - 2021
- Participated in a competition held by IIT Bombay to make a drone for the delivery of parcels.

PROJECTS

Chronic Disease Detection System using Machine Learning | (*Python, Pytorch, CNN*)
Developed an expert system achieving 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.

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, 3D Modelling and Printing*)
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>.