

Mahima Arora

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Education

University of Maryland

Masters in Robotics Engineering

College Park, MD

Aug 2021 - May 2023

- **Relevant Coursework:** Control of Robotic Systems , Introduction to Robot Modeling, Human Robot Interaction, Planning for Autonomous Robots, Perception for Autonomous Robots, Computer Processing of Pictorial Information (Computer Vision)

University of Petroleum and Energy Studies

Bachelor of Technology in Mechatronics Engineering

Dehradun, India

Aug 2014 – May 2018

- **Top 10 % of class CGPA 3.08/4**

Technical Skills

Programming : Java, C++, Python, C#, Vega, SQL, m script (for MATLAB) | **Database :** MSSQL server, Oracle | **Tools :** Elasticsearch(ELK stack), MATLAB, Siemens Teamcenter, ROS, SolidWorks, Gazebo, Rviz | **Training :** Machine Learning (Stanford University online) | **Web/UI Development :** Java SWT, C# WPF | **File Editors :** MS Office , Libre Office, Latex | **Operating Systems :** Microsoft Windows, Linux | **Other :** XML, JSON, Cucumber, Selenium

Work Experience

Occupancy Viz, University of Maryland

Research Assistant

College Park, Maryland

Dec 2021 - Present

- Tested the software for bugs as well as currently implementing assets in ROS for user study.

Art Library, University of Maryland

Student Assistant

College Park, Maryland

Oct 2021 - Present

- Organize, Stack, and manage books as well as coordinate with customers daily to overcome challenges.
- Student assistant ReACT Executive Panel – Responsibilities include assisting and helping the executive panel with decision making. Currently working on creating a website for the ReACT for the university website.

Intelizign

Software Engineer

Pune, India

Aug 2020 – May 2021

- Designed dashboards for automotive client BMW as well as creating new visualizations from scratch using Vega. Won a team award for the BMW project.
- Implemented a Software product developed in C# to install software in the office desktop. Software facilitated the user to install programs on the systems which has limited user access rights due to security issues so that the user has the flexibility to install software according to his needs.

Siemens Digital Industries Software PLM

Software Engineer Intern

Pune, India

Jan 2019 – Aug 2020

- Formulated and tested step definitions and feature files for supporting Behavior Driven Development(BDD) testing for both UI testing and API testing.
- Reorganized scripts in MATLAB and Simulink as well as drafted basic test models in Simulink.
- Made a GUI utility using core Java and Java SWT for Model Management Gateway (MMG) to generate JSON from an input XML.
- Remodeled and improved the GUI interface using core Java and Java SWT for users to successfully upload models in Activeworkspace.
- Presented an idea for Industrial Energy Monitoring and Management for Hackathon, 2019.

ENSMM

Summer Research Intern

Besancon, France

Jun 2017 – Aug 2017

- Key project details and contributions included Concept, Design and Fabrication of a Precision Micro Robot, to be deployed for surgical use on the middle ear for diagnosis of Cholesteatoma.
- Programmed and calibrated micro robot on Arduino software for precision control of encoders.

Projects

Master's Projects

CyberKnife surgical robot in Gazebo

Nov 2021 – Dec 2021

- Designed a 6DOF surgical manipulator in SolidWorks and exported URDF for its usage in ROS and Gazebo.
- Key features as follows: Robot's ability to reach a tumor in simulation environment using calculated Kinematics.

Mobile Robot locomotion in Gazebo with Lidar sensor

Oct 2021 – Nov 2021

- Designed a differential mobile robot in SolidWorks and exported URDF.
- Key features as follows: Robot's Autonomous movement in gazebo worlds as well as using Teleop functionality.
- Programming done in python for subscriber and publisher and included a Lidar sensor fitted on the top for mapping in Rviz.

Undergraduate Project

Industrial Safety Robot

- Fabricated autonomous fire and fumes detecting robot for detection of flames and toxic gases in an environment not suitable for humans which was programmed on Arduino with use of optical encoders for its autonomous movement.
- A paper was published in the SCOPUS journal (2017) for the same.

Extracurricular Activities

- Vice president of International Society of Automation (2016-2017) Dehradun, India
- Graduate Women in Engineering Club Member (2021 – present) Maryland, USA
- Assistant to ReACT Executive (2021 – present) Maryland, USA