CHINMAY AMRUTKAR

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Education

Arizona State University (Tempe, AZ) *Aug 2024 – Present*

Master of Science in **Robotics and Autonomous Systems in AI**

- Artificial Intelligence, Robotic Systems, Space Robotics and AI, Machine Vision and Pattern Recognition

MIT World Peace University (Pune, India) *Aug 2019 – May 2023*

Bachelor of Technology, **Robotics and Automation** (CGPA: **9.77**/10)

- Graduated as a Gold Medalist

Projects

Integration of MyCobot Pro 600 and Digital Twin for Maze Navigation *Dec 2025*

- Integrated computer vision and robotics for autonomous maze-solving by using Python (OpenCV) and MATLAB (inverse kinematics).
- Created a digital twin of MyCobot Pro 600 to enable robot path planning and verification using MATLAB.

Design and Prototyping of Robotic Arm for Waste Sorting using Computer Vision *Sep 2022 – Nov 2022*

- Trained a YOLOv7 model on a dataset of 2000+ images, achieving 47% object detection accuracy for glass, paper, cardboard and tin cans (recyclable waste).
- Designed and prototyped a 3 DOF Robotic Arm with Arduino control, capable of handling payload up to 200 grams.

Work Experience

Jabil Circuit India Private **Pune, India**

Graduate Engineer Trainee *Jan 2024 – July 2024*

- Pioneered an automated ESD wristband monitoring system, ensuring strict adherence to industry standards and significantly reducing the risk of electrostatic discharge (ESD) damage to sensitive components.
- Effectively collaborated and coordinated with cross-functional teams to understand their exact requirement and develop tailored solutions.

Hexagon Manufacturing Intelligence **Pune, India**

R&D Intern *Feb 2023 – Aug 2023*

- Achieved expertise in end-to-end software testing, including the creation of 1000+ manual test cases and further automated it using Sikuli as an OCR tool.
- Developed a tool for generating scripts required for test automation. This tool enabled non-coders to generate test automation scripts, resulting in increased efficiency and productivity.
- Acquired a deep understanding of both Virtual Test Drive Software and MSC Adams Software.

Skills

- **Softwares and Frameworks:** MSC Adams, Virtual Test Drive, SolidWorks, Fusion 360, MATLAB, MS Office, ROS, ROS2
- **Programming Languages:** Python, C++, C, Java
- **Soft Skills:** Problem Solving, Teamwork, Leadership, Effective Communication, Time Management

Publications

- "Overview of Autonomous Vehicles and Its Challenges", *Techno-Societal 2022. ICATSA 2022. Springer, Cham*
- "A state-of-the-art review on robotics in waste sorting: scope and challenges", *International Journal on Interactive Design and Manufacturing (IJIDeM),* vol. 17, 2789–2806 (2023)

Leadership and Volunteer Work

Team Captain – Design and Manufacturing of Electric Vehicles *Jan 2020 - Jan 2023*

- Led a team of 14 members having cross-functional teams like CAD/CAE, Manufacturing, Chassis, Braking, and Suspension. Resulting to a first-place finish for acceleration category in electric vehicle design competition.

Robotics Instructor, Volunteer *Jan 2023*

- Successfully led hands on learning program in robotics and IoT to enhance technological skills in rural India.