BENHAR JOHN

+1-623-341-6489 • benharej@gmail.com • www.linkedin.com/in/benhar-john

SUMMARY

Graduate student pursuing an MS in Robotics and Autonomous Systems with hands-on experience in robotics, AI, and machine learning. Extensive project work in developing autonomous robots using advanced computer vision and deep learning techniques. Seeking internship, co-op, or full-time opportunities to leverage my skills in robotics, AI, and autonomous systems in a dynamic industry setting.

EDUCATION

M.S. in Robotics and Autonomous Systems (Artificial Intelligence) Graduating May 2026
Arizona State University, Tempe, AZ 3.89 GPA
Relevant Coursework: Robotic Systems I, Multi-Robot Systems, Linear Algebra in Engineering

Bachelor's in Robotics, AI, and Machine Learning May 2024
Srinivas University Institute of Engineering and Technology, Karnataka, India 8.45/10 GPA
Relevant Coursework: Robot Kinematics and Dynamics, Mechatronics, Data Structures & Algorithms, Computer Vision

TECHNICAL SKILLS

Programming: Python, ROS, C/C++, MATLAB
Design and Modeling Tools: SOLIDWORKS, Fusion 360, MATLAB, Microsoft Office

EXPERIENCE

Volunteer Research Assistant
RISE Lab, Arizona State University Oct 2024 – Present

- Collaborated with PhD students to design advanced trajectory planning algorithms for the UR5 robotic arm, implementing smooth circular and multi-waypoint trajectories using Python.
- Simulated robotic motions in ROS and Gazebo, ensuring stability and precision of planned trajectories.
- Integrated TRAC-IK for inverse kinematics, enabling precise real-time control of robotic end-effectors in teleoperation tasks.

Intern
K-Tech Centre of Excellence in Aerospace May 2023 –Aug 2023

- Modeled and simulated a robotic arm to perform quality checks and enhance automation efficiency using CATIA, SIMULIA, and DELMIA within the 3D EXPERIENCE application, resulting in a 15% improvement in task accuracy.
- Contributed to optimizing the robotic arm's design and operation, which led to a 10% reduction in energy consumption and a 5% decrease in cycle time for automated processes.
- Developed and implemented simulation models to identify and address potential operational issues, enhancing the arm’s reliability and reducing downtime by 20%.

ACADEMIC PROJECTS

Maze-Solving Robot Fall 2024
Developed an autonomous robotic system integrating computer vision, path planning, and digital twin simulation to solve a 4x4 maze using the MyCobot Pro 600 robotic arm.

- Implemented Breadth-First Search (BFS) for optimal pathfinding and translated solutions into real-world robotic motion.
- Designed and validated robotic trajectories using MATLAB Simulink for collision-free navigation.
- Achieved accurate and autonomous execution via real-time control with TCP/IP protocols.

Assistive Robot Control System Spring 2024
A system for controlling a robotic arm through hand gestures.

- Achieved 98% accuracy in real-time gesture recognition for robotic arm control using machine learning.
- Improved user efficiency by 30% with a vision-based control interface for a 3D-printed robotic hand.

POSITIONS OF RESPONSIBILITY

Secretary of Robotics Branch, Srinivas University Oct 2023 – May 2024

- Led and organized robotics-related activities and meetings, fostering collaboration and innovation within the team.
- Coordinated with team members to plan and execute projects, including workshops and demonstrations.