

As a Ph.D. student in Computer Science, I specialize in deep learning, robot vision, and automation, focusing on enhancing the autonomous capabilities of assistive robots. Leveraging my experience as a Distinguished Graduate Student Fellow and Graduate Research Assistant, I am devoted to pushing the boundaries of technology to create innovative solutions that benefit society.

SKILLS

Tools and Languages	Python, C, C++, JAVA, MATLAB, TensorFlow, Keras, PyTorch, OpenCV, Matplotlib.
Quantitative Research	Machine Learning, Deep Learning, Data Processing, Computer Vision, Computational Decision Making.

EDUCATION

Engineering PhD: Computer Science, University of Wisconsin-Milwaukee Expected Graduation: Dec. 2025

Dissertation Title: Vision-driven Robotic Assistance for Enhanced Independence in Daily Activities.

- UWM Graduate School Distinguished Graduate Student Fellowship (DGSF) award recipient.
- Northwestern Mutual Data Science Institute (NMDSI) Student Scholars award recipient.

Master of Science in Computer Science, University of Wisconsin-Milwaukee

May. 2023

Overall CGPA: 4.00 on a scale of 4.00

Thesis: Vision-based Object Manipulation for Activities of Daily Living (ADL) Assistance Using Assistive Robot.

- UWM Graduate Student Excellence Fellowship (GSEF) award recipient.
- Chancellor's Graduate Student award recipient.

Bachelor of Science in Computer Science and Engineering, North South University, Dhaka, Bangladesh

Dec. 2018

Overall CGPA: 3.85 on a scale of 4.00 (*Summa Cum Laude*)

Capstone Project: Underwater Research and Rescue Robot.

EXPERIENCES

Graduate Assistant Aug. 2021 — Present

University of Wisconsin-Milwaukee

Milwaukee, Wisconsin

- **Research Assistant Responsibilities:** Developing a vision-guided robot manipulation system. Potential applications of the system are assistive robots, mobile robots, and autonomous/semi-autonomous robot control systems.
- **Teaching Assistant Responsibilities:** Conducting lab classes, helping students with lab tasks, grading lab tasks, homework, assignments and exam scripts, maintaining office hours for the students, etc.

Chief Business Development Officer

Jan. 2021 — Jun. 2021

Advanced Software Technology International Ltd.

Dhaka, Bangladesh

- **Responsibilities:** Developing and sustaining relationships with stakeholders and clients, recruiting and guiding staffs, conducting market research for new business opportunities, providing insight into product development, etc.

PROJECTS [SELECTED]

- **Multifunctional Robotic Assistive Arm (mR2A) for Activities of Daily Living Assistance:** Introducing automation to the assistive robotic arm to perform activities of daily living. *Supported by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR).*
- **Vision-based Object Detection and Localization System for Robot Object Manipulation:** Introducing vision-guided object detection and localization system for autonomous robot object interaction and manipulation. *Supported by NASA through Wisconsin Space Grant Consortium.*

PUBLICATIONS [SELECTED]

- Shahria, M. T., Arvind, A., Iqbal, I., Ahmed, H. U., Saad, M., Ghommam, J., & Rahman, M. H. (2023, August). **Vision-Based Localization and Tracking of Objects Through Robotic Manipulation.** *The 14th IEEE International Conference on Power Electronics and Drive Systems (PEDS 2023).* IEEE.
- Shahria, M. T., Sunny, M. S. H., Zarif, M. I. I., Ghommam, J., Ahamed, S. I., & Rahman, M. H. (2022). **A Comprehensive Review of Vision-Based Robotic Applications: Current State, Components, Approaches, Barriers, and Potential Solutions.** *Robotics*, 11(6), 139. MDPI AG.

VOLUNTEERING ACTIVITIES

Peer-Reviewer	The IEEE Transactions on Robotics, The Visual Computer (Springer Nature), 2023 IEEE International Conference on Robotics and Automation (ICRA), and IEEE TALE 2019.
Volunteer	The 2023 IEEE International Conference on Intelligent Robots and Systems (IROS 2023), Student Professional Awareness Conference (SPAC), and IEEE SYWC Congress 2017.
Leadership Experience	Served as the chair of the <i>IEEE North South University Robotics and Automation Society Student Branch Chapter</i> , the first official Robotics and Automation Society (RAS) Student Branch Chapter in Bangladesh.

HONORS & AWARDS

CSI AI Hackathon, UWM	Winner of the CSI AI Hackathon 2023 as part of A.I.chemists team.
IEEE SS12 Competition	Winner of the IEEE SS12 Project Competition and Maker Fair 2017.