Sneh Acharya

(832) 404-9810 | acharyasneh007@gmail.com | linkedin.com/snehacharya | github.com/sneh-ach

Education

Bachelor of Science in Computer Science | The *University of Texas at Arlington* Expected May 2025

- UTA Academic Scholarship (All 4 years)
- Freshman Honor Roll (Fall 2021)

Software Skills

Languages:	C/C++, Java, JavaScript, Python, HTML, CSS, PLC, Visual Basic, PHP, Dart, Flutter
Frameworks/Other:	Cypress, Selenium, Bootstrap, WordPress, Firebase
Operating System:	macOS, Windows, Linux
Certification:	Additive Manufacturing, Mechanical Design, Robotics, and Automation
Skills:	Flutter Flow, Unity, Adobe Photoshop, Adobe Premiere, Adobe Illustrator, SolidWorks, AutoCAD, ROS
Language:	Fluent in English, Hindi, and Nepali

Work Experience

HERACLEIA HUMAN-CENTERED COMPUTING LAB (UTA) (http://heracleia.uta.edu)

UNDERGRADUATE RESEARCHER *March 2022 – Present*

- Making a platform for data collecting using ROS and the Summit XL robot to collect and process sensor data for autonomous navigation
- Building virtual settings with the Unity game engine to simulate investigations involving human-robot interaction
- Working on Smartphone-Based IoT-Controller Framework for Assisting the Blind in Human-Robot Interaction
- Working with Human-Robot Interactive System using Hand Gestures and Smartphone-based IoT-Controller Framework.

MSV SERVICE SOLUTIONS (https://www.moonlightsvc.com)

WEB DEVELOPER *June 2021 – November 2022*

- Conducted preliminary discussions with clients regarding the design and functionality of the website.
- Reviewed designs and features as presented by the team.
- Leads off testing of all websites.
- Evaluated the state of readiness of websites before turning over the project to the client.

Projects

- **Towards a Teleoperated Multimodal Human Robot Interactive SLAM using Smartphone based IoT-Controller Framework | Research Paper | Heracleia Human-Centered Computing Lab (http://heracleia.uta.edu)**

  Through this system, humans are added in the loop to build SLAM map where they send commands through IoT-Controller Framework to add and change locations, creating a Human Robot Interactive (HRI) SLAM map on top of 2D SLAM map. The HRI SLAM can be used by robot to navigate to locations, when users issue navigation command. Preliminary experiments conducted in lab environment showed that the HRI SLAM can be built and updated, using user voice and text commands. Adding or changing a location in SLAM map took an average time of 9.7 seconds while the robotic system took an average time of 40.96 seconds to complete a navigation task using SLAM map with an average distance error of 10.4 cm.

- **Smartphone-Based IoT Framework for Assisting the Blind in Human-Robot Interaction | Research Paper | Heracleia Human-Centered Computing Lab (http://heracleia.uta.edu)**

  Smartphone-based IoT-controller framework is proposed to assist visually impaired users with effective interaction with robots in a human-robot interaction scenario. The user can access a smartphone application through speech, give commands for a pick and place task, and the robot performs the task based on the user's speech command. This preliminary work aims to implement the general controller framework and test the integration with the robotic system.

- **Indoors Traversability Estimation with Less Labels for Mobile Robots | Research Paper | Heracleia Human-Centered Computing Lab (http://heracleia.uta.edu)**

  This project aims to determine indoor traversability estimation using only RGB images through the prism of binary image classification. Our proposed method exploits the power of a pre- trained Vision Transformer (ViT) which we fine-tune on our own collected small dataset. Through experimentation, we show that the performance of our fine-tuning method achieves high levels of accuracy and generalization and outruns well-established state-of-the-art deep architecture for image classification such as ResNet.