Sushmita Sarker

(775) 447-2141 | sushmitasarkers@unr.edu
linkedin.com/in/sushmitasarker/ | github.com/sushmitaSARKER | Google Scholar

Education

University of Nevada, Reno — Reno, NV
Ph.D. in Computer Science — *Aug. 2022 – Dec. 2025*

University of Nevada, Reno — Reno, NV
MS in Computer Science — *Aug. 2021 – Dec. 2023*

Gujarat Technological University — Ahmedabad, India
BS in Electronics and Communication Engineering — *Sep. 2013 – Apr. 2017*

Technical Skills

Languages: Python, R, C++, MATLAB
Deep/ Machine Learning Libraries: Tensorflow, Keras, PyTorch, Pandas, Numpy, Matplotlib, Scikit-learn
Research Area: Applied Machine Learning, AI in Healthcare, Computer Vision and Pattern Recognnition

Research Experience

Graduate Research Assistant — Aug. 2021 – Present
University of Nevada, Reno — *Reno, NV*

- Conducted research on the application of artificial intelligence in medical imaging, focusing specifically on neural network methodologies such as convolutional neural networks (CNN), transformers, and generative models for processing mammogram images to detect invasive masses.
- Collaborated with the Mining lab to develop a storage repository that efficiently stores vast amounts of raw data in its native format, streamlining data accessibility for diverse end-users across the organization.

Teaching Experience

Instructor — Aug. 2023 – Dec. 2023
University of Nevada, Reno — *Reno,NV*

- Course taught: GRAD 778: Elements of Research Computing
  Designed and delivered comprehensive instruction to over 100 graduate students, covering essential research components within the field of computational engineering

Graduate Teaching Assistant — Aug. 2021 – Dec. 2021 & Aug. 2022 – Dec. 2022
University of Nevada, Reno — *Reno, NV*

- Course: ENGR100
  Served and equipped undergrad students with programming and foundational engineering skills.

Assistant Teacher — Dec. 2017 – June 2021
South Point School & College — *Dhaka, Bangladesh*

- Course taught: Cambridge IGCSE A Level Physics
  Instructed and inspired students, cultivating a deep understanding of the subject and helping them achieve their academic goals.

Summer Internship

Network Engineer Intern — June. 2016 – Aug. 2016
Teletalk BD Ltd — *Dhaka, Bangladesh*

- Conducted in-depth research and collaborated with a team of experts in the field of mobile communications, gaining valuable experience with cutting-edge technologies including Global System for Mobile Communication (GSM), 4G technology, Synchronous Digital Hierarchy (SDH), and Media Gateway for Mobile Network (MGW).

Publications

Sushmita Sarker, Prithul Sarker, George Bebis, Alireza Tavakkoli, "MV-Swin-T: Mammogram Classification with Multi-view Transformer", IEEE International Symposium on Biomedical Imaging, 2024. Preprint link

Sushmita Sarker, Prithul Sarker, George Bebis, Alireza Tavakkoli, "ConnectedUNets++: Mass Segmentation from Whole Mammographic Images", International Symposium on Visual Computing, 2022. Springer link

Sushmita Sarker, Prithul Sarker, Gunner Stone, Ryan Gorman, Alireza Tavakkoli, George Bebis, Javad Sattarvand, "A Comprehensive Overview of Deep Learning Techniques for 3D Point Cloud Classification and Semantic Segmentation", Machine Vision and Applications 2024. Springer link

Gunner Stone, **Sushmita Sarker**, Jonathan Greenberg, Alireza Tavakkoli, "Part Segmentation of Synthetic Tree Pointclouds with Deep Learning".

Undergraduate Thesis

3D Printed Prosthetic Limb May. 2016 – May. 2017

- The primary objective of the thesis was to ensure to provide artificial hand to handicaps in moderate cost for ensuring better affordability.
- Employed Electromyography (EMG) sensor to measure muscle activity and developed a wireless switch as a backup for prosthetic limbs, enhancing functionality for long-term use.

Academic Accolades

Nevada Drive Scholar Aug. 2023 – May. 2024

- Selected as the Nevada scholar for the 2023-2024 Nevada DRIVE program. Graduate research assistantship (GRA) program designed to promote Doctoral Research in Innovation, Vision and Excellence at the University of Nevada, Reno

Indian Council for Cultural Relations Scholarship Aug. 2013 – Apr. 2017

- I was honored to receive the highly competitive Fulbright scholarship from 2013 to 2017 to pursue my undergraduate studies at a prestigious institute in Ahmedabad, India. This esteemed scholarship is awarded annually to a selected number of students who have demonstrated exceptional academic achievement and leadership potential.