

Prithul Sarker

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Portfolio: <https://prithulsarker.me/> | [Google Scholar](#)

EDUCATION

University of Nevada, Reno <i>Ph.D. in Computer Science</i>	Reno, NV Jan. 2021 – Dec. 2024
University of Nevada, Reno <i>MS in Computer Science</i>	Reno, NV Jan. 2021 – May 2023
Bangladesh University of Engineering and Technology <i>BS in Electrical and Electronic Engineering, Minor in Telecommunication</i>	Dhaka, Bangladesh Feb. 2013 – Sep. 2017

TECHNICAL SKILLS

Languages: Python, R, C++, MATLAB, SQL, JavaScript
Deep/ Machine Learning Libraries: Tensorflow, Keras, PyTorch, Pandas, Numpy, Matplotlib, Scikit-learn
Research Area: Applied Machine Learning, Pupillometry, Virtual Reality, AI in Healthcare, Computer Vision

EXPERIENCE

Graduate Research Assistant <i>University of Nevada, Reno</i>	Jan. 2021 – Present Reno, NV
<ul style="list-style-type: none">Led my own research, implemented an ophthalmic assessment in virtual reality (VR), gathered control and patient data, analyzed data gathered from the assessment to predict and quantify defect in participants.Participated in NSF I-Corps national program with our research technology and was awarded \$50,000.Collaborated with Neuromechanics lab on concussion detection from VR ocular and vestibular data.	
Education Mentor <i>Army Educational Outreach Program (AEOP)</i>	May 2021 – Aug. 2021 & June 2022 – Aug. 2022 Reno, NV
<ul style="list-style-type: none">Mentored five high school students who assisted in one of my research projects by preprocessing data.	
Team Lead / Senior Software Quality Assurance Engineer Software Quality Assurance Engineer <i>EchoLogyx Ltd.</i>	Jan. 2020 – Dec. 2020 June 2019 – Dec. 2019 Dhaka, Bangladesh
<ul style="list-style-type: none">Led the team to create a positive relationship with the clients contributing to 160% company growth in year 2020.Designed and wrote script for QA automation using selenium.Scraped data from the client website and listed essential information.	
Product Officer <i>Loence Solution</i>	July 2018 — May 2019 Dhaka, Bangladesh
<ul style="list-style-type: none">Researched market and designed features and infrastructure of the enterprise resource planning (ERP) web app.	
Assistant Engineer (Electrical) <i>Energypac Engineering Ltd.</i>	Nov. 2017 – June 2018 Dhaka, Bangladesh
<ul style="list-style-type: none">Investigated issues, and troubleshoot faults in the electrical system of transformers and other substation equipment.	

PROJECTS

ChatGPT Code Snippet Extension <i>JavaScript, HTML, CSS</i> GitHub	Feb 2023 – Present
<ul style="list-style-type: none">Developed a chrome extension which lets you save code snippet suggested by ChatGPT in your browser.	
Bengali Video Maker Bot <i>Python, Selenium, YouTube API</i> GitHub Demo	Oct. 2022 – Present
<ul style="list-style-type: none">Developed a bot that makes video in Bengali from Facebook posts using google voice and uploads in social media.	
VR-Chess <i>C++, Unreal Engine</i> GitHub	Jan. 2022 – June 2022
<ul style="list-style-type: none">Implemented an interactive chess game in VR where the user can have a 3D view from any angle of the board.	
Bangladeshi Student Association Website <i>CSS</i> GitHub Demo	Jan. 2022 – Present
Social Media Interaction Bot <i>Python, Selenium, HTML</i> GitHub	Feb. 2020 – May 2020
<ul style="list-style-type: none">Created a bot that logs in social media (Twitter, Instagram, Facebook), and interacts (like, comment) with posts.	
Face Recognition in Real Time Video <i>Python, OpenCV</i> GitHub	Oct. 2019 – Mar. 2020
<ul style="list-style-type: none">Implemented a python program to localize faces from real time video and recognize them with 85% accuracy.	

PUBLICATIONS

Prithul Sarker, Nasif Zaman, Alireza Tavakkoli, “VR-SFT: Reproducing Swinging Flashlight Test in Virtual Reality to Detect Relative Afferent Pupillary Defect” [Springer link](#)

Prithul Sarker, Nasif Zaman, Joshua Ong, Phani Paladugu, Molly Aldred, Ethan Waisberg, Andrew G. Lee, Alireza Tavakkoli, “Test-retest Reliability of Virtual Reality Devices in Quantifying for Relative Afferent Pupillary Defect”

Prithul Sarker, Sushmita Sarker, George Bebis, Alireza Tavakkoli, “ConnectedUNets++: Mass Segmentation from Whole Mammographic Images” [Springer link](#)

Prithul Sarker, Khondker Fariha Hossain, Isayas Adhanom, Philip Pavilonis, Nicholas Murray, Alireza Tavakkoli, “Analysis of Smooth Pursuit Assessment in Virtual Reality and Concussion Detection using BiLSTM” [Springer link](#)

Prithul Sarker, Joshua Ong, Nasif Zaman, Sharif Amit Kamran, Ethan Waisberg, Phani Paladugu, Andrew G. Lee, Alireza Tavakkoli “Extended Reality Quantification of Pupil Reactivity as a Non-Invasive Assessment for the Pathogenesis of Spaceflight Associated Neuro-ocular Syndrome”

Prithul Sarker, Joshua Ong, Nasif Zaman, Sharif Amit Kamran, Ethan Waisberg, Phani Paladugu, Andrew G. Lee, Alireza Tavakkoli, “Investigating the Pathogenesis of Spaceflight Associated Neuro-ocular Syndrome with Head-mounted Visualization Engineering of Pupil Reactivity”

Prithul Sarker, Alireza Tavakkoli, “An Arduino-based Lightweight and Reliable Solution to Detect Relative Afferent Pupillary Defect”

Joshua Ong, Ethan Waisberg, Sharif Amit Kamran, Phani Paladugu, Nasif Zaman, **Prithul Sarker**, Alireza Tavakkoli, Andrew G. Lee, “Deep Learning Synthetic Angiograms for Individuals Unable to Undergo Contrast-guided Laser Treatment in Aggressive Retinopathy of Prematurity” [Nature Eye link](#)

Ethan Waisberg, Joshua Ong, Sharif Amit Kamran, Nasif Zaman, Phani Paladugu, **Prithul Sarker**, Alireza Tavakkoli, Andrew G. Lee, “Further Characterizing the Physiological Process of Posterior Globe Flattening in Spaceflight Associated Neuro-ocular Syndrome with Generative Adversarial Networks” [Applied Physiology link](#)

Ethan Waisberg, Joshua Ong, Mouayad Masalkhi, Nasif Zaman, Sharif Amit Kamran, **Prithul Sarker**, Andrew G. Lee, Alireza Tavakkoli, “Text-to-image Artificial Intelligence to Aid Clinicians in Perceiving Unique Neuro-ophthalmic Visual Phenomena” [Springer link](#)

Khondker Fariha Hossain, Sharif Amit Kamran, **Prithul Sarker**, Philip Pavilonis, Isayas Adhanom, Nicholas Murray, Alireza Tavakkoli, “Virtual-Reality based Vestibular Ocular Motor Screening for Concussion detection using Machine-learning” [Springer link](#)

Alireza Tavakkoli, Nasif Zaman, **Prithul Sarker**, “Calibration of Head Mounted Displays for Vision Research with Virtual Reality”

UNDERGRADUATE THESIS

Statistical Modeling of Effluent Generated from Proposed Rampal Power Plant for Environmental Impact Assessment

Oct. 2016 – Sep. 2017

- The primary objective of the thesis was to ensure less emission of SO_x and NO_x compared to subcritical and supercritical technologies.
- Analyzed and interpreted the direction of wind of that locality to ensure the prevention of the mangrove forest from the power plant generated SO_x and NO_x emissions.