

PRITHUL SARKER

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Education

University of Nevada, Reno

Reno, Nevada, United States of America
Second year Ph.D. Student – GPA: 4.0/ 4.0
Major: Computer Science

January 2021 - Present

Bangladesh University of Engineering and Technology

Dhaka, Bangladesh
Bachelor of Science – GPA: 3.48/ 4.0
Major: Electrical and Electronic Engineering

February 2013 – September 2017

Experience

Graduate Research Assistant

January 2021 – Present

Department of Computer Science, University of Nevada, Reno

- Led my own research, implemented an ophthalmic assessment in virtual reality, gathered control and patient data, analyzed data gathered from the assessment to predict and quantify defect in participants.
- Developed a novel deep learning architecture to segment mass from full mammographic image. The architecture currently beats any other known architecture in terms of dice and Jaccard score.
- Collaborated and coordinated with Neuromechanics Lab on detection of concussion symptom from vestibular and ocular data collected through virtual reality (VR) headset using different neural network architecture
- Assembled electrical components, programmed, and implemented an ophthalmic assessment using Arduino and Pupil Core (from Pupil Labs), and conducted a research study to get pupillomotor data in various instances and analyzed the data to predict a particular condition in participants.

Education Mentor

May 2021 – August 2021

June 2022 – August 2022

Army Educational Outreach Program (AEOP)

- Mentored five high school students to increase their enthusiasm to research. They helped in one of my research projects by cleaning and preprocessing the data, and by implementing multiple machine and deep learning models

Team Lead / Senior Software Quality Assurance Engineer

January 2020 – December 2020

Software Quality Assurance Engineer

June 2019 – December 2019

Echologyx Ltd., Dhaka, Bangladesh

- Led the QA team in client meetings and created a positive and strong relationship with the clients
- Structured the QA process in a time efficient way with maximum effectiveness
- Designed and wrote script for QA automation
- Assessed client requirements and ensured those are met
- Scraped data from the client website and listed essential information

Product Officer

July 2018 – May 2019

Loence Solution, Dhaka, Bangladesh

- Researched local and international ERP market and assessed competition by comparing products
- Analyzed client needs and drove new product development
- Led cross-functional teams

Assistant Engineer (Electrical)

November 2017 – June 2018

Energypac Engineering Ltd., Dhaka, Bangladesh

- On and off-site client support
- Carried out test procedures ensuring that substation equipment works to its specification
- Investigated issues, and troubleshoot faults in the electrical system of transformers and other safety equipment

Publications

1. **Prithul Sarker**, Sushmita Sarker, George Bebis, Alireza Tavakkoli, “ConnectedUNets++: Mass Segmentation from Whole Mammographic Images” (Accepted, yet to be published)
2. **Prithul Sarker**, Nasif Zaman, Alireza Tavakkoli, “VR-SFT: Reproducing Swinging Flashlight Test in Virtual Reality to Detect Relative Afferent Pupillary Defect” (Accepted, yet to be published)
3. **Prithul Sarker**, Khondker Fariha Hossain, Isayas Adhanom, Philip Pavilionis, Nicholas Murray, Alireza Tavakkoli, “Analysis of Smooth Pursuit Assessment in Virtual Reality and Concussion Detection using BiLSTM” (Accepted, yet to be published)
4. Khondker Fariha Hossain, Sharif Amit Kamran, **Prithul Sarker**, Philip Pavilionis, Isayas Adhanom, Nicholas Murray, Alireza Tavakkoli, “Virtual-Reality based Vestibular Ocular Motor Screening for Concussion detection using Machine-learning” (Accepted, yet to be published)
5. **Prithul Sarker**, Alireza Tavakkoli, “An Arduino-based Lightweight and Reliable Solution to Detect Relative Afferent Pupillary Defect” (Abstract accepted, yet to be published)
6. Alireza Tavakkoli, Nasif Zaman, **Prithul Sarker**, “Calibration of Head Mounted Displays for Vision Research with Virtual Reality” (Paper Submitted)

Test Score

1. GRE- 323 (Quant: 168, Verbal: 155)
2. IELTS- 7 (Speaking: 7)

Undergraduate Thesis

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

- 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.

Professional Courses

1. Deep Learning Specialization- Coursera
2. Neural Networks and Deep Learning- Coursera
3. Data Science using Python- Udemy
4. Social Behavioral Research Investigators and Key Personnel Group- CITI Program
5. Customer Discovery Training - Bay Area Regional NSF I-Corps Node - UC Berkeley

Technical Skills

Programming: Python, R, C++, Matlab

Deep/ Machine Learning Libraries: Tensorflow, Keras, Pandas, Numpy, Matplotlib

Designing Tools: AutoCAD, EAGLE

References

1. Alireza Tavakkoli
Associate Professor
Department of Computer Science
University of Nevada, Reno
Email: tavakkol@unr.edu
2. M R Q Motin
Chief Technology Officer
Echologyx Ltd., Dhaka, Bangladesh
Email: motin@echologyx.com
3. Reference from previous client (Connect Services) while working with Echologyx:
<https://youtu.be/5g5-bN4addw?t=136>