Sloke Shrestha

Email: [sshrestha7@patriots.uttyler.edu](mailto:sshrestha7@patriots.uttyler.edu)

GitHub: <https://github.com/slokeshrestha26>

Webpage: [slokeshrestha26.github.io](https://d.docs.live.net/ab9f0ac3f0321e24/Graduate%20School%20Application/slokeshrestha26.github.io)

EDUCATION

Bachelor of Science in Electrical Engineering (B.S.E.E). 2018 – 2022

Minor in Mathematics

The University of Texas at Tyler  *Cumulative GPA: 3.90/4.0*

RESEARCH INTERESTS

Human Computer Interaction, Health Monitoring, Ubiquitous Computing

PUBLICATIONS

[1] Carreiro S, Taylor M, **Shrestha S**, Reinhardt M, Gilbertson N, Indic P. Realize, Analyze, Engage (RAE): A digital tool to support recovery from substance use disorder. *J Psychiatry Brain Sci*. 2021

[2] Carreiro S, Chintha KK, **Shrestha S**, Chapman B, Smelson D, Indic P. Wearable sensor-based detection of stress and craving in patients during treatment for substance use disorder: A mixed methods pilot study. *Drug and Alcohol Dependence*. 2020, 107929

IN PREPARATION

[3] **Shrestha S**, Taylor M, Chaudary S, Leach R, Carreiro S, Indic P. Detection of craving and stress in patients with substance use disorder using wearable sensor data using Machine Learning

[4] VNSA Amperayani, **Shrestha S**, Colm T, AmbalavananN, Indic P. Machine Learning Algorithms for the Prediction of Bradycardia Risk in Preterm Infants

RESEARCH EXPERIENCE

**Visiting Student** May 2021 – Dec 2021

*EECS, CSAIL, Massachusetts Institute of Technology*

*Advisor: Professor Stefanie Mueller*

*Project: Electrical Impedance Tomography (EIT) toolkit*

* Performed benchmark tests for image reconstruction algorithms in EIT by calculating mean squared error using python, MATLAB, and swift, quantifying the robustness of the reconstruction algorithms.
* Implemented Gauss-Newton Solver for Electrical Impedance Tomography (EIT) in Swift, adding features to the toolkit.

*MATLAB, swift, python, XCode, iOS development, mobile health*

**Undergraduate Research Assistant** May 2019 – May 2022

*Department of Electrical Engineering, The University of Texas at Tyler*

*Advisor: Professor Premananda Indic*

*Project: Machine Learning to Detect Cravings and Stress in Patients with Substance Use Disorder*

* Developed machine learning algorithms (svm, ensemble) to detect stress and cravings from physiological signals using MATLAB (classification learner) and python (scikit-learn), increasing accuracy by 20 percent [1, 2].
* Developed data parsing API and feature extraction pipeline to develop supervised machine learning, using MATLAB and python (numpy, pandas, and scipy), making experimentation fast and easy.
* Collaborated and coordinated with multidisciplinary team of MDs, PhDs, engineers, and industry professionals to build a consumer-grade product.
* Reviewed data fidelity from a wearable sensor and mobile framework used in clinical trials, addressing.

*MATLAB, python, machine learning, time series data, bio-signal processing, mobile health, LaTeX*

*Advisor: Professor Premananda Indic*

*Project: Machine Learning Algorithms for the Prediction of Bradycardia Risk in Preterm Infants*

* Developed machine learning algorithms (svm) to predict risk in preterm infants from cardiac data using MATLAB (classification learner), yielding publishable results
* Maintained citations in manuscript using EndNote citation tool.

*MATLAB, machine learning, time series data, bio-signal processing, EndNote*

TEACHING EXPERIENCE

**Laboratory Assistant, Linear Circuits** Jan 2021 – May 2021

*Department of Electrical Engineering, The University of Texas at Tyler*

*Supervisor: Professor Premananda Indic*

* Pre-ran laboratory experiments and presented linear circuit implementation to a class of 10.

**PASS Tutor** Jan 2019 – May 2019

*Academic Success, The University of Texas at Tyler*

* Tutored about 15 students every week for Chemistry, Physics, and Calculus.

AWARDS AND HONORS

Tapia Scholarship, Richard Tapia ’21 Conference 2021

Autodesk Tapia Scholarship, Richard Tapia ’20 Conference 2020

President’s Honor Roll, The University of Texas at Tyler 2019 - 2022

Dean’s List, The University of Texas at Tyler 2018

Presidential Fellow Scholarship, The University of Texas at Tyler 2018 - 2022

(Full tuition, fees, books, room and board covered)

MEMBERSHIP IN PROFESSIONAL SOCIETIES

Vice President, UT Tyler IEEE Corona Chapter 2021 – 2022

Junior Representative, UT Tyler IEEE Corona Chapter 2020 - 2021

**LANGUAGES**

English: Proficient

Nepali: Proficient

Hindi: Fluent

LAST MODIFIED: May 6, 2022