

# Sloke Shrestha

Email: [sshrestha7@patriots.uttler.edu](mailto:sshrestha7@patriots.uttler.edu)  
GitHub: <https://github.com/slokeshrestha26>  
Webpage: [slokeshrestha26.github.io](https://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, Chintla 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, Ambalavanan N, Indic P. Machine Learning Algorithms for the Prediction of Bradycardia Risk in Preterm Infants

## RESEARCH EXPERIENCE

### Visiting Student

Summer 2021 – December 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

Summer 2019 – Present

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

Spring 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

Spring 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 - Present

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 - Present

Junior Representative, UT Tyler IEEE Corona Chapter

2020 - 2021

IEEE (Student Member)

2019 - Present

## LANGUAGES

---

English: Proficient

Nepali: Proficient

Hindi: Fluent

LAST MODIFIED: May 6, 2022