Sloke Shrestha

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GitHub: https://github.com/slokeshrestha26
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EDUCATION

Bachelor of Science in Electrical Engineering (B.S.E.E). 2018 – 2022
Minor in Mathematics (anticipated)
The University of Texas at Tyler
Major GPA: 4.0/4.0
Cumulative GPA: 3.94/4.0

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, 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

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.

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 (Full tuition, fees, books, room and board covered)	2018 - 2022

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: January 9, 2022