Sloke Shrestha

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EDUCATION

The University of Texas at Austin, Austin, TX — Dec 2024
***M.S**, Electrical and Computer Engineering; **GPA:** 3.75/4*

The University of Texas at Tyler, Tyler, TX — May 2022
***B.S.**, Electrical Engineering; **GPA:** 3.95/4*

Relevant Coursework: Applied Machine Learning, Advanced Computer Vision, Algorithms

SKILLS

Languages: Python, Java, HTML, JavaScript, CSS, SQLite, C/C++, Swift
Frameworks: PyTorch, TensorFlow, Scikit-Learn, Flask, XCode
Tools: Git, CI/CD, Docker, Linux

EXPERIENCE

Graduate Research Assistant, The University of Texas at Austin — Aug 2022 - Present
Austin, TX; Reference - Edison Thomaz

- Enhanced data annotation in human activity recognition using vision language models in HuggingFace and OpenAI for faster annotation of egocentric images; improved speed by 15 times when tested on 1012+ hours of videos
- Built data pipelines to clean, process, and train models for image, video, time series, and language data which reduced the time to complete an experiment from 5 days per dataset to 5-10 minutes per dataset
- Wrote unit tests in Python for data pipelines which increased development efficacy in adding new features to data pipelines

Visiting Research Assistant, Massachusetts Institute of Technology (MIT) — Mar 2021 - Dec 2021
Remote; *Reference - Junyi Zhu*

- Executed a thorough benchmarking of an image reconstruction algorithm in a Electrical Impedance Tomography (EIT) toolkit using Python; benchmarking used to submit a strong rebuttal for a paper in a top conference (UIST)
- Implemented an Gauss-Newton algorithm in Swift and XCode for EIT; merged the implementation with the main branch of EIT-KIT toolkit repository

Undergraduate Research Assistant, The University of Texas at Tyler — May 2019 - May 2022
Tyler, TX; Reference - *Premananda Indic*

- Led a pivotal role in a team of MDs, Ph.Ds, engineers, and business executives to deliver an experimental wearable health product for RAE Health to the market by launching the first randomized control trial (RCT)
- Engineered machine learning training pipeline for time series sensor data resulting in 4x decrease in the time taken to experiment with models and improved the model accuracy by 10% on average
- Delivered weekly machine learning workshops covering topics in supervised and unsupervised learning with 5 audiences which made collaboration among the team smoother and led to three publications in a multidisciplinary topic

PROJECTS

Egocentric Image Annotation Web App; Repository Link

- Developed a highly interactive Flask backend web application for image annotation leveraging AI suggestions; web app used in a research study which showed 70% faster completion times and 20% of increase in accuracy
- Integrated bootstrap with HTML, CSS, and JavaScript front-end to expedite development time whilst keeping user interface (UI) pretty
- Enhanced the user experience (UX) of the UI by collaborating with 5 peers and an advisor; crafted a detailed and successful study protocol as a result

Keyboard Acclimation Web App; Application Link

- Built a typing game in HTML, CSS, JavaScript to help get acclimated to different keyboards in different workplace environments to improve typing efficiency; increased typing speed by 30%

Wearable Sensor Framework

- Architected a wearable device using C/C++ in a team of 5 to sense and send heart rate and movement data from a human wrist to a node for machine learning inference; presented project to 100+ attendees in a senior design expo