

# HARSH SHROFF

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## EDUCATION

### Master of Data Science

University of Maryland, Baltimore County

Aug 2022 - May 2024

Relevant Coursework: Machine Learning, NLP, Data Analysis & Visualization, Data Management, SQL

### Bachelor of Engineering in Electronics & Communication Engineering

Gujarat Technological University

Aug 2019 - May 2022

Relevant Coursework: Python, Artificial Intelligence, Internet of Things

GPA: 3.4/4.0

## SKILLS

### Languages

C/C++, Embedded C, Python, R, SQL, HTML, CSS

### Tools & Frameworks

Django, TensorFlow-Keras, PyTorch, Seaborn, Matplotlib, SciPy, NLTK

### Development Boards

Arduino Uno, Nano 33 BLE, RaspberryPi, Jetson Nano, STM32 Boards

## EXPERIENCE

### Electronics & Machine Learning Intern

Jan 2022 - Jun 2022

WeHear Innovations PVT LTD

Ahmedabad, India

- Developed prototypes for both bone-conduction earphones and wristband to assist hearing impaired people.
- Integrated an ML model with 85% accuracy for speaker recognition with wristband and earphones to facilitate mobility of people with disability.
- Designed Printed Circuit Boards (PCBs) for the second-generation bone-conduction earphones and wristbands to improve performances, results, and accessibility by 57% by introducing touch sensitive buttons, more battery power and new design.

### Embedded Systems Engineer Intern

Feb 2021 - Aug 2021

Episodic Labs PVT LTD

Ahmedabad, India

- Integrated 2 camera modules with a RaspberryPi 4 & Compute Module I/O board to achieve best shot with proper focus and framerates.
- Engineered motion-enabled sensors and sports action cameras to automatically trigger the camera and capture 10 seconds of motion while playing a stroke to track and evaluate batsmen's performance.

## PROJECTS

### Svadeshi

[GitHub](#)

- Gathered the dataset from two ancient scriptures namely *Shrimad Bhagwat Gita* and *Ramayana* to train the model.
- English-to-Sanskrit and vice versa translation tool with 79.8% accuracy built using NLP to preserve the Sanskrit language because Sanskrit speakers are fewer and further between these days.

### Dr Tongue

[GitHub](#)

- Web application, **ranked 4th** at a state level Ideathon, designed for tongue diagnosis based on ML model trained using python and integrated with a website.
- Neural network model achieved training accuracy of 80% and testing accuracy of 76% with a small dataset.

### WhatsApp Chat Analyzer

[GitHub](#)

- Developed a web-app in Python with the help of *Streamlit* to analyze and visualize WhatsApp chats.
- Displayed graphs of most active users, most used words, most used emojis, and activity time of each user.

### Cyclists' Dashboard

[GitHub](#)

- Dashboard coded in Python with *Dash* module to enable cyclists with performance analysis.
- Coded to help cyclists to analyze main three aspects of the rides namely, *average*, *and maximum speed*, *distance*, and *elevation* to improve cycling skills.
- It also displays a map of the path taken while riding and analyses of the rides on a monthly and annual basis.

## ACHIEVEMENTS

- Published a research paper on "*Mosquito Species Identification from its Wing Beats on a TinyML Device*" with 17 other papers from 10 countries at Kaleidoscope 2021 conference hosted by the International Telecommunication Union (ITU) [IEEE Explore](#).
- Ranked **1st** at an international hackathon organized by the ITU and The Telecommunications and Digital Government Regulatory Authority of United Arab Emirates (TDRA) [News Article](#).
- Presented a talk to 10 teams and guest speakers on "*Design of a Python-based Dashboard to Assist Athletes in Analyzing and Enhancing Performances*" at the **SciPy India 2021** conference [YouTube Video](#).
- Featured in a renowned newspaper, Ahmedabad Mirror for the project [Smart Dresser: an AI based Outfit Selector](#).