

# Harsh Shroff

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## Skills

**Languages:** C/C++, Embedded C, Python, R, SQL, HTML, CSS

**Development Boards:** Arduino Uno, Nano 33 BLE, RaspberryPi, Jetson Nano, STM32 Boards

**Tools & Frameworks:** Django, TensorFlow-Keras, PyTorch, Seaborn, Streamlit, Matplotlib, SciPy, Tableau, PowerBI

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## Education

### Master's of Data Science

Aug 2022 - May 2024

[University of Maryland, Baltimore County \(UMBC\)](#)

GPA: 3.9/4.0

**Relevant Coursework:** NLP, Data Analysis & Visualization, Data Management, Big Data Processing, Financial Data Science, Machine Learning, Artificial Intelligence

### Bachelor's of Engineering in Electronics & Communication Engineering

Aug 2019 - May 2022

[Gujarat Technological University \(GTU\)](#)

GPA: 3.4/4.0

**Relevant Coursework:** Python, Artificial Intelligence, Internet of Things, Machine Learning

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## Experience

### Data Science Tech Intern

Aug 2023 - Present

[The Conservation Fund, Freshwater Institute, WV, USA](#)

- Contributing to various aquaculture and Recirculating Aquaculture Systems (RAS) research projects.
- Creating machine-vision algorithms to streamline the traditional salmon coloration process.
- Collaborating on studies focused on enhancing aquaculture techniques at the Conservation Fund at Freshwater.

### Graduate Research Assistant

Mar 2023 – Present

[Center for Real-time Distributed Sensing and Autonomy, UMBC](#)

- Developing hand gesture-based control for Boston Dynamics' Spot robots for teleoperation using MS HoloLens 2.
- Integrating Velodyne LIDAR and interfacing Axis camera on Jackal and Husky, and building indoor and outdoor map using SLAM.

### 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.
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## Projects

### Smart Dresser

[GitHub](#)

- It is an AI-powered outfit selector designed to make shopping experience faster, easier, and safer.
- Integrated different technologies, including machine learning, image processing, and body posture detection, to provide personalized outfit recommendations based on user preferences and body type.

### 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.

### 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.
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## Achievements

- Published a research paper in [IEEE Explore](#) 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 ITU.
- 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](#).