SOUNDARYA DUBE

Udaipur, Rajasthan | P: +91 7737190027 | soundaryadube981@gmail.com | [LinkedIn](#) | [GitHub](#)

EDUCATION

Vellore Institute of Technology (VIT), Bhopal   **2022 - 2026**
B.Tech in Computer Science Engineering, Specialization in Health Informatics.
8.25

SKILLS

Technical Skills: AIML, TensorFlow, PyTorch, FastAPI/Flask, OpenCV, Google Cloud Platform (GCP) - Deployment and Monitoring, API Development.
Languages: Python, C++, Java

UNIVERSITY PROJECTS

Health Card System   May 2025

- A secure, centralized digital health record system to streamline patient data management, utilizing FastAPI for high performance backend services and MongoDB for efficient NoSQL data storage.
- Deployed on GCP with robust security measures, implementing a unique 14-digit ABHA-like ID for seamless patient/ doctor access, reducing duplicate tests and misdiagnosis.
- Enhances healthcare efficiency by providing instant access to medical history, lab reports, and prescriptions, aligning with India's Ayushman Bharat digital mission. [GitHub Link](#)

Deep Learning for Surgical Tumor Detection   Dec 2024

- An AI-driven diagnostic tool that processes MRI/CT scans using CNNs to detect tumors and abnormalities with high accuracy.
- Implemented image preprocessing pipelines with OpenCV and deployed the model as a real-time inference API using Flask on GCP.
- Assists surgeons in pre-operative planning by identifying critical regions, potentially improving surgical outcomes and patient survival rates. [GitHub Link](#)

ECG-Based Health Risk Stratification Platform   Jul 2024

- A complex data unification pipeline to integrate six public ECG datasets (MIT-BIH, PTB-XL, SCDH), resolving heterogeneities in lead configurations, sampling rates, and labeling schemas to create a unified ontology for +15 cardiac and systemic conditions.
- Implemented model with accuracy of 82% and explainability using Gradient-weighted Class Activation Mapping (Grad-CAM) to generate visual saliency maps, identifying clinically relevant features within the ECG waveform and validating decisions against cardiological principles.
- Deployed the system as an interactive web application using Gardio, providing a comprehensive health report to facilitate early intervention and scalable use in preventive cardiology screening. [GitHub Link](#)

EXTRACURRICULAR ACTIVITIES

Metaversity Club   VIT Bhopal, Feb 2025

- Increased club's digital footprint and online engagement through targeted content on social media.
- Utilized analytics-driven performance tracking to optimize outreach campaigns and engagement rates.

Industrial Conclave   VIT Bhopal, Aug 2024

- Managed a cross-functional team to design and implement a medical image analysis project, from concept to deployment.
- Fostered collaboration between technical and non-technical members, ensuring project alignment with industry standards and timely delivery.