

RAJENDRAN S

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Technical Skills

Languages: Java, Python, SQL, JavaScript, C

Developer Tools: Git, Docker, Firebase, MySQL, MongoDB

Libraries/Frameworks: React, Django, Flask, Bootstrap

Work Experience

Telkom University

May 2025 – June 2025

Research Intern — Smart City Research Lab

Bandung, Indonesia

- Led the design and development of a **Waste Object Detection** system as part of a research initiative aimed at advancing sustainable urban infrastructure through AI-driven waste management.
- Engineered and trained multiple deep learning models — including **YOLOv10, YOLOv11, and YOLOv12** — tailored for real-time waste classification in complex environments such as landfills and public spaces.
- Achieved **state-of-the-art accuracy of 95.2%**, outperforming baseline models by employing advanced augmentation strategies, iterative training cycles, and extensive **hyperparameter optimization**.

Education

Coimbatore Institute of Technology

2023 – 2027

B.Tech in Artificial Intelligence and Data Science

CGPA: 9.71 / 10.00

- **Relevant Coursework:** Data Structures and Algorithms, Operating Systems, Machine Learning, Software Engineering, Artificial Intelligence, Database Systems

Projects

AI-Driven Infant Wellness Platform for Parental Support | Team Lead | February 2025

[Source Code](#)

- Web platform designed to help parents understand and care for their babies using advanced AI technology.
- Implemented a baby cry classification model achieving **84.97%** validation accuracy, enabling emotion-based analysis across five cry categories.
- **Technologies:** Python, TensorFlow, Flask, MySQL, JavaScript

Deep Learning-Based Respiratory Disease Detection from Audio Signals | Team Lead | August 2024 [Source Code](#)

- Developed an AI-based application for detecting pulmonary infections in food processing industry workers using respiratory audio analysis.
- Trained a hybrid CNN-GRU model on Mel spectrograms extracted from respiratory sounds, achieving a validation accuracy of **91.3%** across 4 disease categories.
- **Technologies:** Python, TensorFlow, Librosa, NumPy, Matplotlib, Flask

Roles and Responsibilities Held

- **Technical Lead**, FOSS, Coimbatore Institute of Technology (May 2025 - Present)
- **Joint Secretary**, Entrepreneurship Development Cell, Coimbatore Institute of Technology (August 2024 - Present)
- **Joint Secretary**, AI & DS Association, Coimbatore Institute of Technology (April 2024 - April 2025)

Events & Achievements

- **First Place** in E-Week (Ideathon) at GR Damodaran Academy of Management for presenting a **piezoelectric-based smart city** idea.
- **First Place** in Ideathon at the Dept of Humanities & Chemistry, CIT for pitching **LearnARly**, an application incorporating Augmented Reality in Education idea.
- **First Place** in a Project Expo at **Virtus Codicis** at Sri Eshwar College of Engineering
- **Second Place** in Googleathon (Hackathon) by GDSC Club for a **Respiratory Disease Detection** idea in Food Processing Industries.
- **First Place** in Perpetual Fest'24, an IoT based Project Expo at CIT.