

ADARSH P KURIAN

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SUMMARY

B.Tech Computer Science student with strong foundations in Software Engineering and Machine Learning, dedicated to building intelligent, scalable, and efficient solutions that create real-world impact, and always adaptable to new technologies and knowledge.

EDUCATION

- **Bachelor of Technology - Computer Science & Engineering**
Amal Jyothi College of Engineering (Autonomous), Kanjirappally, Kerala CGPA: 8.76
APJ Abdul Kalam Technological University 2026
- **Higher Secondary (12th)**
St Jerome's HSS Vellayamkudy, Kattappana DHSE, Kerala
Percentage: 97.08%, 2021
- **Secondary (10th)**
St Jerome's HSS Vellayamkudy, Kattappana CBSE
Percentage: 99.9%, 2019

EXPERIENCE

- **ML Research Intern** *NIT Calicut* May 2025 – Jul 2025
 - Conducted a detailed study on the **dose-quality trade-offs between Cone-Beam CT (CBCT) and Fan-Beam CT (FBCT)** in radiotherapy applications.
 - Gained in-depth understanding of **Machine Learning (ML)** and **Deep Learning** fundamentals, with practical implementation using **PyTorch**.
 - Implemented and evaluated **2D U-Net** and **3D U-Net** architectures for **medical image segmentation**, analyzing performance metrics and accuracy.
- **Web Development Intern** *AGROWTEIN Pvt Ltd* January 2024 (5 days)
 - Developed small-scale **web applications**, including a shopping cart and personal portfolio website, using **HTML, CSS, and JavaScript**.
 - Deployed projects via **GitHub Pages** and managed source code using **Git version control**.

TECHNICAL SKILLS

Programming Languages: Python, Java, C

Web Technologies: HTML, CSS, Bootstrap, CSS

Frameworks & Libraries: TensorFlow, PyTorch, Scikit-learn, OpenCV

Databases: MySQL

Tools & Methodologies: Git, Agile Methodologies

PROJECTS

- **CROVIA – Direct Malayalam Speech-to-English Translation Model for the Farmer Advisory System** 2025
 - Developed a **real-time speech translation model** leveraging **OpenAI Whisper** to convert Malayalam agricultural speech into accurate English text.

- Fine-tuned Whisper using **LoRA (Low-Rank Adaptation)** to enhance domain-specific performance for agricultural terminology.
- Curated and annotated a **custom 35+ hour bilingual dataset** for direct Malayalam-to-English speech translation with high linguistic and contextual accuracy.
- Optimized model efficiency and translation accuracy through **targeted fine-tuning, data preprocessing, and parameter optimization**.

• SMART WAYS – Smart Traffic Management System

2024–2025

- Designed and developed a **real-time traffic optimization system** using **computer vision** and **machine learning algorithms** to minimize congestion and enhance urban mobility.
- Implemented **adaptive traffic signal control** using live data streams to dynamically regulate signal timing for optimal flow.
- Integrated **YOLO-v11** for vehicle detection and **LSTM networks** for learning temporal vehicle count patterns.
- Created a **modified round-robin scheduling algorithm** to dynamically allocate waiting times and improve intersection efficiency.
- Recognized as the **Best Departmental Project** and published as a **research paper in NACORE 2025** for innovation in intelligent transportation systems.

LEADERSHIP & INVOLVEMENT

- **Membership Development Head – ACM Student Chapter** 2024 – Present
Planned and organized **technical events, coding workshops**, and membership drives to enhance student engagement and retention within the ACM community.
- **NSS Volunteer – Amal Jyothi College of Engineering** 2023 – Present
Participated in various **community outreach programs**, including campus cleaning drives and blood donation camps, fostering social responsibility, teamwork, and youth leadership.
- **Captain – Bharat Scouts and Guides, St. Jerome's HSS Vellayamkudy** 2019 – 2021
Spearheaded community welfare initiatives and youth-led environmental drives; recognized with the **Chief Minister's Shield Award** for distinguished leadership and service.

CERTIFICATONS

- **Introduction to Machine Learning** NPTEL September 2025
- **ORACLE CERTIFICATIONS: Database Programming with SQL, Java Foundations, AI Vector Search, OCI AI Foundations, OCI Generative AI Professional, and OCI Data Science** ORACLE University
- **Joy of Computing using Python** NPTEL April 2023

ACHIEVEMENTS

- **Crovia (End-to-End Speech-to-Text Translator) Project – Phase-2 Shortlisted & Funded, Innovation Ideas Unleashed (I2U)** 2025
- **Best Mini Project Award – Dept. of CSE, Amal Jyothi College .** 2024
- **Published Research paper “Intelli-Traffic Management System”** NACORE 2025