

Sandhiya C V

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WORK EXPERIENCE

AI Scientist

5C Network

January-2025 - Present

AI Radiology Transcriber

Developed a real-time **speech-to-text** platform for radiologists with AI-powered text correction.

- Built a **real-time speech-to-text platform** for radiologists with **AI-powered transcription and text correction** using Whisper and Kimi-K2 models.
- Designed a **microservices-based backend** with WebRTC audio streaming, LLM post-processing, and RESTful APIs secured with authentication.
- Developed a **TypeScript SDK** with rate limiting, error handling, and API key authentication; packaged and distributed as npm modules.
- Deployed on **Render with Docker**, integrated **Supabase PostgreSQL** for user management and analytics, and set up **Grafana monitoring** for performance insights.

Tech Stack: Node.js, Express.js, LiveKit WebRTC, Supabase, React, Docker, Render, PostgreSQL

Personalized Health Assistant

A personalized health assistant featuring meal planning, glucose monitoring and nutrition analysis agents

- Architected a **multi-agent health platform** using the Agno framework, orchestrating 6 AI agents with intelligent intent routing and cross-agent communication.
- Developed a **full-stack conversational interface** with FastAPI backend, Next.js frontend, CopilotKit for state management, and AG-UI for seamless interactions.
- **Evaluated agent performance** using a synthetic health dataset of 100+ users, analyzing mood, glucose levels, and meal plans stored in an SQLite system.
- **Containerized and deployed** the application on GCP using Docker Compose with multi-service architecture, persistent storage, and automated health monitoring.

Tech Stack: AI Agents, Agno, Google AI Studio, CopilotKit, AG-UI, SQLite, Docker Compose, GCP.

Radiology Reporting System for BPL X-Ray

Core member of the team who developed and deployed an AI system capable of predicting pathologies and generating automated radiology reports immediately after X-ray acquisition.

- Gained **in-depth domain expertise in medical imaging and radiology** to design clinically relevant models and reporting logic with secondary capture integration.
- **Architected a multi-stage diagnostic pipeline** for normal/abnormal classification, device detection, and multi-pathology segmentation across **21 conditions**, addressing real-world clinical edge cases.
- **Developed and optimized detection and segmentation models** using **Faster R-CNN, Detectron2, YOLO, EfficientDet, RetinaNet**, and **transformer-based architectures**, achieving significant performance gains on radiology tasks.

Tech Stack: PyTorch, Detectron2, Roboflow, Medical Imaging (DICOM).

TECHNICAL SKILLS

- **Programming Languages** : Python , Javascript.
- **Frameworks** : FastAPI, Node.js, Express.js, React.
- **AI & ML** : OpenAI, Vextex AI Studio, Groq, Agentic workflows, Fine tuning vision models.
- **Tools** : Visual Studio Code, Jupyter Notebook, GitHub.
- **AI Tools:** Cursor, Lovable, Droid, Codex, Claude code, n8n.

EDUCATION

Government College of Technology, Coimbatore.

Bachelor of Engineering in Electronics and Communication with minors in DS & DA

August 2021- April 2025

CGPA - 8.35