

Thota Rahul

Vijayawada, Andhra Pradesh | +91 8328436890 | rahulthota21@gmail.com

 linkedin.com/in/rahulthota21 |  github.com/rahulthota21

Summary

Final-year CSE student with hands-on experience building AI-integrated backend systems using Python, FastAPI, LLMs, RAG, and machine learning frameworks. Built and evaluated projects spanning AI-based recruitment, adaptive tutoring, and medical imaging, with experience developing end-to-end system workflows. Co-authored three research papers based on these projects, published at IEEE conferences.

Education

Amrita Vishwa Vidyapeetham, Amritapuri Campus

B.Tech in Computer Science and Engineering

Cumulative GPA: 8.29 / 10.0

Kollam, Kerala

August 2026

Experience

AI/ML Intern - Infosys Springboard

Oct 2024 – Dec 2024

GlucSense: AI-Powered Diabetes Detection

- Built a machine learning pipeline to classify individuals as diabetic, pre-diabetic, or healthy using healthcare and lifestyle data, with a focus on early diabetes risk detection.
- Implemented and compared multiple classification models using Scikit-learn, applying feature selection techniques to identify relevant attributes and evaluating performance using **Precision, Recall, F1 Score, and AUC**.

Projects

HealthATM: Lung Nodule Screening System | *Project Lead* | GitHub

2025 – 2026

- Built a screening system for analyzing chest CT scans and assisting early lung nodule assessment in resource-constrained healthcare settings.
- Developed an end-to-end pipeline for CT preprocessing, nodule detection, 3D segmentation, malignancy risk estimation, and structured reporting, with explainability through segmentation masks and **Grad-CAM**.
- Evaluated the system on public lung CT datasets, achieving **91.4% sensitivity**, **0.84 Dice score**, and **0.91 ROC-AUC**, with **22.5s end-to-end inference** per CT study.

Mock'n-Hire: AI-Powered Resume Screener | *Project Lead* | GitHub

March 2025 – July 2025

- Built a recruiter-facing platform for automated resume screening and personalized mock interviews, combining candidate ranking with real-time stress and emotion feedback.
- Developed modular **FastAPI** services for resume parsing and semantic ranking, personalized question generation, and video-based emotion analysis using **Mistral-8x7B**, Sentence Transformers, and MobileNetV2.
- Evaluated on 250 resumes across 5 job roles, achieving **86.4% Precision@10** and **88.2% Top-5 Accuracy**; emotion analysis reached **82.6% accuracy**, while processing 50 resumes in 3.2 minutes.

AffectLearn: Sentiment-Aware Intelligent Tutoring System | *Project Lead* | GitHub

Jan 2025 – Apr 2025

- Built an adaptive STEM tutoring system that adjusts explanations, quiz difficulty, and response tone based on the learner's text, voice, and webcam inputs.
- Integrated a **LoRA-tuned TinyLLaMA** with multimodal feedback using RoBERTa for sentiment, Whisper for speech transcription, and CNN-based facial stress detection.
- Grounded lesson generation with **FAISS + OpenStax** through RAG and stored session feedback in Supabase; achieved **85.2% human approval**, 0.451 BLEU, and 0.772 ROUGE-L.

Publications & Achievements

- HealthATM: 3D Lung Nodule Detection via Knowledge Distillation** - Co-Author, GCON-26, IEEE.
- Mock'n-Hire: AI System for Automated Resume Screening** - 2nd Author, ICCNT 2026, IEEE.
- AffectLearn: Sentiment-Aware Adaptive STEM Tutor with LoRA-Tuned LLMs** - 2nd Author, IEEE TALE 2026.
- Top-8 Finalist among 80 teams, Tredence Hackathon 2025** - Built TravelSync, an AI itinerary planner with real-time travel API integration, during a 24-hour sprint.

Technical Skills

Languages: Python, SQL

Backend & Databases: FastAPI, REST APIs, PostgreSQL, Supabase, Pydantic

ML & AI: PyTorch, TensorFlow, Transformers, FAISS, RAG, LoRA, LLMs, LangChain, CNNs

Data & Tools: NumPy, Pandas, Docker, Git/GitHub

Core CS: OOP, DBMS, Operating Systems, Computer Networks