

AC Sanhitha Reddy

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Education

Amrita Vishwa Vidyapeetham	Coimbatore, Tamil Nadu
Bachelor of Engineering in Computer Science; CGPA: 7.64/10.0	Aug 2023 - Present
Narayana Junior College	Nellore, Andhra Pradesh
12th Grade – Science (State Board): 97.3%	2023
Rainbow CBSE School	Nellore, Andhra Pradesh
10th Grade (CBSE): 94.4%	2021

Research Experience

Predictive Modeling for Pre-Treatment Radiotherapy QA in Hepatocellular Carcinoma	2025 – Present
Research Assistant Advisors: Dr. Amit Agarwal, Dr. Rose Kamal	Amrita Vishwa Vidyapeetham
<ul style="list-style-type: none">Developing physics-informed ML/DL models to predict pre-treatment gamma passing rates (2%/2 mm, 3%/3 mm) from planned fluence and 53×53 dose mapsDesigning CNN-based, dosimetric, and hybrid fusion models for quantitative radiotherapy quality assuranceAdapting clinically weighted loss functions to prioritize failure sensitivity under medical physics safety constraints	
Cervical Cancer Research – Gamma Rate Analysis & Predictive Modeling	2025 – Present
Research Assistant Advisors: Dr. Amit Agarwal, Dr. Sruthi K, Dr. Ajay Sasidharan	Amrita Vishwa Vidyapeetham
<ul style="list-style-type: none">Developing ML/DL models on multimodal clinical/pathological data for treatment outcome predictionImplementing automated data extraction, preprocessing, and feature engineering for survival analysisBuilding predictive models to optimize treatment strategies using advanced machine learning techniques	

Projects

HASYv2 Handwritten Math Symbol Classification PyTorch, CNN	
<ul style="list-style-type: none">Built a PyTorch CNN for the HASYv2 dataset with full preprocessing, augmentation, and model optimizationExperimented with BatchNorm, adaptive pooling, and multi-layer fully connected architectures to improve accuracyAchieved top performance and won a university-level Machine Learning competition	
Reversal Point Detection in US Equities Time-Series Modeling , PyTorch, LSTM, RNN , Feature Engineering	
<ul style="list-style-type: none">Developed a financial time-series model to detect market reversal points using engineered cross-ticker and temporal featuresHandled imbalance and applied time-aware ensemble validation to separate true reversals from market noiseProduced a robust signal extraction pipeline capable of filtering volatile market behavior	
Biomedical Knowledge System NLP,RAG	
<ul style="list-style-type: none">Developed a biomedical NER and query understanding pipeline using Transformer modelsIntegrated into a RAG-based web system for generating context-aware medical insightsBuilt custom biomedical NLP model achieving high entity recognition accuracy	
MindHaven LLMs, RAG, Full-Stack	
<ul style="list-style-type: none">Built a privacy-first mental-health platform using LLMs, agentic workflows, and RAG with anonymized user identities.Implemented crisis detection, safe response generation, and personalized emotional assistance with alerts for clinicians and guardians.Developed clinician-facing summaries with consent-based access control and strong privacy, encryption, and PII protection.	

Technical Skills

Programming Languages: Python, C++, SQL, Haskell, Java
Machine Learning & AI: PyTorch, TensorFlow, Scikit-learn, NumPy, Pandas, LangGraph, RAG
Specializations: Deep Learning, NLP, LLMs, Computer Vision, Time-Series Modeling
Web Technologies: React.js, Node.js, Express.js, TailwindCSS, HTML, CSS
Databases: MySQL, MongoDB, PostgreSQL, ChromeDB , Pinecone, FAISS
Tools & Platforms: Docker, AWS, Git, CI/CD

Certifications

AWS Cloud Practitioner Essentials – AWS (2025)	Machine Learning Specialization – Stanford Online (2025)
Deep Learning Specialization – DeepLearning.ai (2025)	

Achievements & Leadership

1st Place – PyTorch: Fire It Up Hackathon (IETE Amrita)	AIR 118 – AEEE Exam (2023)
Classical Dance Performer – School-level cultural events	Coordinator – Gokulashtami Event, Amrita Vishwa Vidyapeetham