

T Sudeep Reddy

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PROFILE

A curious and adaptable student with a passion for global exposure, innovation, and interdisciplinary learning. Driven by a desire to explore emerging technologies and diverse cultures, I aim to contribute meaningfully through collaboration and cross-cultural exchange. Possessing a strong foundation in problem-solving, coding (C, Python), and AI applications, I am eager to expand my perspective through hands-on experiences that blend technology, creativity, and societal impact.

EDUCATION

B-Tech in Computer Science and Engineering (Artificial Intelligence)

Amrita Vishwa Vidyapeetham

2022 – 2026

Bangalore, India

HIGHER SECONDARY EDUCATION 12TH

Narayana Junior college

2020 – 2022

Hyderabad, India

SKILLS

Languages: Python, C++, JavaScript, TypeScript, SQL

Libraries & Framework: NumPy, Pandas, Scikit-learn, TensorFlow, PyTorch, OpenCV, NLTK, SpaCy, Matplotlib

Tools & Platforms: AWS (S3, EC2), Git, SQL (MySQL/PostgreSQL), Postman, MongoDB

Core Concepts: Machine Learning, Deep Learning, Computer Vision, NLP, Data Analytics, Reinforcement Learning

Soft Skills: Communication, Team Collaboration, Adaptability, Leadership, Problem Solving, Research & Innovation

PROFESSIONAL EXPERIENCE

AI Engineering Intern at InfernoMach

AI-Powered Image Super-Resolution and Defect Detection

- Engineered a full-stack computer vision solution for automated quality control, enabling the detection and classification of defects on industrial components from visual data.
- Implemented a U-Net and an autoencoder architecture to perform image super-resolution, significantly enhancing the quality of low-resolution inputs.
- Quantified the effectiveness of the image processing model using established metrics like PSNR (Peak Signal-to-Noise Ratio) and SSIM (Structural Similarity Index).
- Developed a classification model to categorize images as 'ok' or 'defective' based on visual features, a critical step in automated quality assurance.

PROJECTS

A Hybrid AI-Driven Energy Conservation Framework for CaaS Cloud Data Centers Using Computational Steering and Federated Learning

- Designed and implemented a hybrid AI-driven energy optimization framework integrating Deep Reinforcement Learning (DRL), Federated Learning (FL), and computational steering for CaaS cloud data centers.
- Developed an OpenAI Gym-based DRL scheduler for adaptive workload allocation, reducing energy imbalance and enhancing resource utilization across heterogeneous racks.
- Engineered an Agentic AI Monitoring module to perform dynamic learning-rate steering and real-time hyperparameter tuning for sustained convergence and stability.
- Integrated Federated Learning (Flower framework) for distributed model collaboration across data centers, ensuring privacy-preserving global optimization.
- Conducted simulations via KubeSim and CloudSim Plus, achieving a 15–20% reduction in mean energy consumption compared to baseline scheduling policies.
- Delivered a scalable, interpretable, and energy-efficient system supporting adaptive, autonomous decision-making in next-generation cloud infrastructures.

PUBLICATIONS

Comparative Study of Adversarial Image Attacks

2025

Cloud Storage Security Audit System

2025

Analysis of Green Computing models on AWS using machine learning algorithms

2024

Smart Pill Container For Improved Medication

2024