

Rakesh Varma Sirivuri

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Github: github.com/Rakeshvarma007 - Portfolio: rakeshvarma007.github.io/portfolio-website/

EDUCATION

Indian Institute of Information Technology, Sri City
B.Tech in Computer Science and Engineering | CGPA: 8.25 / 10.0
Expected Graduation: May 2029

The Board of Intermediate Education, Andhra Pradesh
Class 12th | Aggregate: 95.2%
May 2023 - May 2025

EXPERIENCE

Human Computer Interaction Lab, IIIT Sri City — Student Researcher
May 2026 - July 2026

- Formulated a novel mathematical framework to optimize 3D Gaussian Splatting (3DGS) rendering pipelines for 3D reconstruction from 2D image sets using PyTorch and CUDA, reducing memory consumption by 37% .

PROJECTS

Domain-Decoupled MoE Landslide Predictor

- Engineered a Mixture of Experts (MoE) deep learning architecture utilizing satellite imagery to predict regional landslide susceptibilities across varying geographical domains.
- Tech Stack: Python, PyTorch, Streamlit, Remote Sensing

Plant Disease Detection System

- Developed an automated crop leaf pathology classifier achieving 98% accuracy on multi-class agricultural datasets; exported the model to ONNX format and deployed on a Raspberry Pi to maximize edge inference speed.
- Tech Stack: Python, PyTorch, ONNX, OpenCV, Raspberry Pi, Scikit-Learn

Neon Slicer — Real-Time Multiplayer Game Engine

- Engineered a high-performance web arcade game featuring client-server state synchronization over WebSockets while maintaining a consistent 60 FPS rendering rate.
- Tech Stack: JavaScript, WebSockets, HTML5 Canvas, Real-Time Systems

CodeSense — AI Docstring Generator

- Developed an AI agent that automatically generates Google-style docstrings and evaluates Python codebase maintainability in real time.
- Tech Stack: Python, LLMs, FastAPI, LangChain

Smart Study Buddy — Local NotebookLM

- Implemented a local Retrieval-Augmented Generation (RAG) system to index, summarize, and query PDF documents offline with High accuracy (model used: Qwen2 1.5B instruct).
- Tech Stack: Python, Qwen, Hugging Face, LangChain, Offline RAG

ACHIEVEMENTS

- 1st Place - Code Crown (Intra-UG DSA Contest):** Won 1st place in the university-wide Data Structures & Algorithms competitive programming contest.
- 1st Place - Epoch x Nasiko Hackathon:** Built *CodeSense*, an AI agent that automatically generates Google-style docstrings and grades codebase maintainability in real time.

TECHNICAL SKILLS

- Languages & Fundamentals: Python, Java, SQL, C++, Object-Oriented Programming, Data Structures & Algorithms
- AI/ML Frameworks: PyTorch, Scikit-Learn, Hugging Face, LangChain, OpenCV, ONNX
- Data Science & Big Data: NumPy, Pandas, Matplotlib, Seaborn, Apache Spark, Databricks
- Developer Tools & Deployment: Git, GitHub, Linux (Bash), Docker, FastAPI