Sai Srirama Saran Konala

B.Tech Artificial Intelligence

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Degree	University/Institute	Year	CGPA/Marks(%)
B.Tech Artificial Intelligence	IIT Hyderabad	2027	9.09
XII (APBIE)	Sri Chaitanya Junior College	2023	97.60%
X (ICSE)	Paramjyoti Public School	2021	94.00%

SCHOLASTIC ACHIEVEMENTS

- **Academic Excellence Award**, IIT Hyderabad – Awarded for ranking among the **highest CGPAs** in the AI department.
- **Google Launchpad 2025 Mentee** – Was part of Google's student upskilling and mentorship program.
- **AIR 875 – JEE Advanced 2023** out of 1.8 lakh candidates.
- **AIR 1166 – JEE Mains 2023** out of 12 lakh candidates.
- **LPUNEST Scholarship** – Awarded for academic excellence in the national-level entrance exam by LPU.
- **5th Place**, Panchayati Raj Simulation – **Inter-IIT Tech Meet 12.0.**
- **6th Place**, IGDC Game Development – **Inter-IIT Tech Meet 13.0.**

PROJECTS

Face Recognition System for Automated Campus Security [GitHub]
- Developed a **one-shot face recognition system** using a **Siamese Neural Network.**
- Accelerated image retrieval by **50%** through **K-Means clustering** on facial embeddings for fast vector search.
- Integrated an **anti-spoofing pipeline** using **image-to-depth mapping** and **facial landmark detection**.

MiniTransformer - Machine Translation [GitHub]
- Implemented a **Transformer from scratch using PyTorch**, with fully custom modules for multi-head attention, positional encoding, and encoder-decoder architecture.
- Trained the model for English-to-German machine translation using character-level tokenization.

Diffusion Model for Image Generation [GitHub]
- Implemented the **Denoising Diffusion Probabilistic Model (DDPM)** from scratch in **PyTorch**, including a **U-Net denoiser** and linear noise schedule as per the original paper.
- Enhanced the model with a **cosine noise schedule** and **self-attention modules** based on follow-up research, and trained it on the **MNIST dataset**.

YOLOv1 for Real-Time Object Detection [GitHub]
- Implemented **YOLOv1** from scratch in **PyTorch** with a **ResNet-50 backbone** and a custom loss function for joint bounding box regression and classification.
- Trained it on the **PASCAL-VOC** dataset, achieving **300 ms inference time per image** on an NVIDIA RTX 4060 GPU.

RISC-V Simulator | Computer Architecture [GitHub]
- Developed a **web-based RISC-V assembler and simulator** in C++, implementing **register, memory, and cache simulation**, with comprehensive **error handling** for smooth assembly-to-hex translation and execution.
- Built and deployed a full-stack web interface using **ReactJS** (frontend), **NodeJS/ExpressJS** (backend), and **WebSocket** (Socket.IO), enabling seamless real-time browser-based interaction with the simulator.

Inventory Management System | DBMS [GitHub]
- Designed and implemented a **3NF MySQL database** with minimal redundancy and optimal performance.
- Developed efficient SQL **stored procedures**, **triggers**, and **user-defined functions** to handle inventory workflows.
- Built a full-stack web application with a **React** (**Shadcn**) frontend and **ExpressJS** backend, supporting **multi-user access and role-based interaction**.

SKILLS

Languages: C/C++, Python, JavaScript, RISC-V Assembly, HTML/CSS
Technologies & Libraries: PyTorch, NumPy, Pandas, Matplotlib, Express.js
Tools & Platforms: React, Socket.IO, Git/GitHub, LaTeX, MySQL, Linux, VS Code, Jupyter Notebook

RELEVANT COURSES

Artificial Intelligence: Programming for AI, Foundation of Machine Learning, Convex Optimization.
Computer Science: Discrete Mathematics, Data Structures and Applications, Algorithms, Computer Architecture, Operating Systems, Database Management Systems, Compilers.
Others: Matrix Theory, Linear Systems and Signal Processing, Probability and Random Variables, Statistics.

EXTRACURRICULAR

- **Touch Typing**: Average 100+ WPM, peak 166 WPM on Monkeytype across 4000+ tests
- **Game Development**: Built games as side projects; won 1st place in inter-hostel and tech fest game jams.

POSITIONS OF RESPONSIBILITY

- **Core Member**, Epoch – AI & ML Club, IIT Hyderabad
- **Core Member**, Lambda – Development Club, IIT Hyderabad
- **Machine Learning Core**, Tinkerers' Lab, IIT Hyderabad
- **Teaching Assistant**, Probability and Random Variables (AI1110), IIT Hyderabad
- **Tech Coordinator**, Office of Career Services (OCS) – Placement Cell, IIT Hyderabad