



EDUCATION AND SCHOLASTIC ACHIEVEMENTS

Program	Institute	% / CGPA	YEAR
BTech in Mechanical Engineering	Indian Institute of Technology, Madras	8.12/10	2025
XII (CBSE)	J.K.G International School	90.4%	2021
X (CBSE)	J.K.G International School	88.0%	2019

- Achieved an All India Rank (AIR) of **2376** in the highly competitive JEE Advanced examination among **1.4 lakh** fellow candidates
- Achieved **99.57** Percentile in the JEE Mains examination among more than **6.6 lakh** fellow candidates

PROFESSIONAL PROJECTS

Runverve AI-Twins (Internship) Dec '24-May'25	To develop an AI-powered personalized running coach to help users achieve their fitness goals
	<ul style="list-style-type: none"> Developed an AI-driven Running Coach leveraging Retrieval-Augmented Generation (RAG), semantic routing, and memory-based personalization to provide context-aware fitness, healthcare, and motivational guidance Optimized inference efficiency by integrating Speculative Decoding, reducing response latency while maintaining model accuracy and alignment with user needs Implemented a LLM framework using a multi-LoRA matrix inference system and reinforcement learning fine-tuning GRPO¹ to dynamically adjust model responses based on user queries, minimizing computational overhead
AI Privacy Agents (Personal Project) Sept '24-Dec'24	Develop an AI Agent to Leverage Large Language Models for Querying Sensitive Data Without Compromising Privacy
	<ul style="list-style-type: none"> Developed a hybrid LLM agent to securely handle sensitive patient data by leveraging query masking techniques and classifying it according to the ICPC-2 system, ensuring privacy while utilizing global LLM capabilities for medical queries Developed a system for doctors by using explainability techniques like Chain of Thought (CoT) and Grad-CAM to verify AI-generated results, along with generation of comprehensive medical reports to enhance understanding and trust
Sports Performance Analysis (Professor Project) Feb '24-Present	Guide: Prof. Babji Srinivasan, Indian Institute of Technology Madras, India
	<ul style="list-style-type: none"> Developed a ball tracking algorithm using OpenCV to monitor ball trajectory based on color, circularity, and area properties and detected ball speed, bounce point, and bat-hitting point with an accuracy of 80% using mobile camera Employed mediapipe library, frame differentiation, and background segmentation techniques to track players and bowler speed and analyzed their motion patterns to understand their strengths and weaknesses Presented the prototype at the IIT Madras Conclave 2024 in Delhi and showcased it to the RCB Cricket team coach
SubNetworks in Neural Networks (Research Project) Jul '24-Mar'25	Guide: Prof. Venkat Venkatasubramanian, University of Southern California, USA
	<ul style="list-style-type: none"> Discovered a hidden network within neural networks, representing approximately 30%-35% of the original model's parameters with an accuracy comparable to the original model, reducing computational costs and energy consumption Analysed the weight distributions in ResNet50 and its subnetwork and Identified that the weight distributions follow a lognormal distribution, providing insights into the underlying characteristics and behavior of the neural network
Query Documents using RAG² (Personal Project) June '24-Jul '24	Build and Deploy a LLM Question-Answering Model on PDFs or Word docs using Langchains and Huggingface Model
	<ul style="list-style-type: none"> Designed a multi-agent graph RAG workflow using LangChains and LaMini-T5-738M, enhancing the ability to navigate and extract meaningful insights from structured and semi-structured data for solving complex problems Built a document retrieval system leveraging sentence transformers (all-MiniLM-l6) to convert documents into vector embeddings and Facebook's FAISS vector store for efficient vector similarity search Deployed a user-friendly interface using Streamlit to enable local execution of the question-answering model

POSITIONS OF RESPONSIBILITY

XR Designer XR Innovation Club Oct'23-Jul'24	<ul style="list-style-type: none"> Collaborated with ICXR³ community and assisted students with XR design-related queries and challenges in Blender Led a team of XR designers and created 3d models, Environment, VFX, and UI designs for multiple AR and VR projects Conducted a workshop on XR design principles and techniques, including hands-on Blender training for beginners
	<ul style="list-style-type: none"> Achieved 6th Rank in InterIIT Cultural 6.0's 3D Animation Competition (IIT Kharagpur) with a 600-frame character animation created using Blender Software and enhanced with Adobe After Effects post-editing Participated in 24-Hours Design marathon competitions and secured the Top 10th Position among all 23 IITs

COURSEWORK AND SKILLS

Tensorflow 2.0: Deep Learning and Artificial Intelligence ⁺		Quantum Computing and Machine Learning [*]	
Data Science: Transformers for Natural Language Processing ⁺		Probability, statistics, and stochastic process	
IBM Data Science Professional ⁺		Series and matrices	
Machine Learning Specialization ⁺		Differential Equations	
Languages	Python, SQL, HTML	Software	Tableau, Excel, PyCharm, AutoCAD, Figma, Blender
Libraries	Ollama, Scikitlearn, LangChains, HuggingFace, Numpy, Pandas, Matplotlib, Seaborn, OpenCV	Miscellaneous	Transformers(LLMs), RAG, LoRA, QLoRA, GRPO, CNN, RNN, A/B Testing, DataScience Pipeline

EXTRA-CURRICULAR ACTIVITIES

Activities and Hobbies	<ul style="list-style-type: none"> Created a World restaurant analysis dashboard using Tableau and ranked Top 10th Position in Data-Vizz2 competition Actively track and stay updated on the latest trends and advancements in the field of Artificial Intelligence (AI) Passionate about creating animations and UI designs, with active participation in various related competitions
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