

Sagar Bag

Indian Institute of Technology Madras (IITM)

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Academic Qualifications

Year	Degree/Certificate	Institute	CGPA/%
2024	Civil Engineering (ongoing 4 th semester)	Indian Institute of Technology, Madras	9.25/10
2023	Class XII (CBSE)	Bal Bhavan Public School, New Delhi	95.20%
2021	Class X (CBSE)	Bal Bhavan Public School, New Delhi	95.60%
Joint Entrance Exams Mains All India Rank 3954			
Joint Entrance Exams Advance All India Rank 5564			

Professional Experience

AI and Computer Vision Research intern | [Telekinesis.ai](https://telekinesis.ai), Germany

May 2024 – Nov 2024

- Researched on 6D pose estimation and created **4** novel pipelines from scratch, which were tested using industrial-grade cameras
- Deployed and benchmarked state-of-the-art large language models (LLMs) to generate high-level robotic task sequences
- Contributed to software development by implementing a feature in the software to dynamically tune and visualize the results of my algorithm. Reducing latency by **64%**

Agentic pipeline and Data Analysis Intern | [Sarvam.ai](https://sarvam.ai)

Oct 2024 - Jan 2025

- Developed **3** voice and web-based agents capable of handling complex tasks such as course recommendations, item selling, and food ordering.
- Designed and implemented LLM-based conversation generation pipelines that reduced agent evaluation time by **60%**, enabling faster and more scalable AI model benchmarking
- Developed a streamlined RAG evaluation framework, facilitating a **15%** enhancement in user trust and engagement

LLM Robotics Integration Specialist | Inter IIT Tech Meet 13.0

Nov 2024 - Dec 2025

- Integrated advanced LLM models to enable seamless communication between robotic systems and end users.
- Collaborated with a cross-functional team to improve the overall usability of robotic environments.
- Enhanced interaction capabilities by integrating LLMs to facilitate intuitive user interfaces in robotics.

Personal Experience/Project

Low-Light Media Enhancement Research

- Collaborating with the AI Club from **1 years** to explore innovative solutions like **Retinex**-based approaches and **Look-Up Tables (LUTs)**.
- Researching and developing night time flare removal architecture based on both CNNs and diffusion models
- Conducting research and developing advanced algorithms to improve the quality of media captured in low-light conditions.

Multifunctional Agentic Model

- Developed a versatile agentic model using langchain incorporating features such as Retrieval-Augmented Generation (RAG), API integration, and multilingual support.
- Designed a flexible framework that enables the seamless integration of various functionalities into a unified AI driven system.

Skills

- **Programming Languages:** Python, JavaScript, C++
- **Specializations:** Machine Learning, Large Language Models (LLMs), Generative AI, Point Cloud Data, Full-Stack
- **Libraries & Frameworks:** PyTorch, Open3D, Pandas, Numpy, LangChain, React, Flask.
- **Tools & Platforms:** FastAPI, AWS SageMaker, Docker, Git

Other Experiences

- **Taught a Machine Learning workshop at TKM College**, representing the **AI Club (CFI)**, where I covered the basics of ML algorithms, model building, and the practical applications of AI.
- **Conducted a workshop at IITM**, representing the **WebOps Club**, where I introduced students to the fundamentals of web development, including topics like frontend and backend integration using React, Flask, and Prisma.
- **Organized and delivered training sessions** on AI/ML topics at the **WebOps Club**, providing insights into machine learning concepts and their implementation in real-world projects.
- **AWS Course on MLOPs** where I learned about Sagemaker, Model deployment, Code build, Code Pipeline etc.

Extra-curricular/Competitions

- secured the 2nd prize at the Deutsche Bank Hackathon, where I demonstrated strong problem-solving skills and developed innovative technological solutions under competitive conditions.
- As an integral member of the classical vocal contingent, I have cultivated a deep appreciation for musical arts, showcasing my artistic versatility and cultural engagement beyond technical domains. 2023-present