

SANJAI K

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Portfolio: https://sanjaikmca.github.io/Sanjai_Portfolio/

PROFESSIONAL SUMMARY

AI and Machine Learning enthusiast with an MCA degree and an IEEE-published research paper. Experienced in developing end-to-end ML and Generative AI applications using Python, TensorFlow, LangChain, FAISS, Streamlit, and Ollama. Eager to contribute to innovative AI solutions as a Machine Learning or AI Engineer.

EDUCATION

Master of Computer Applications (MCA) -- Grade: 9.46/10 CGPA

Aug 2024 – May 2026

Hindustan Institute of Technology & Science, Chennai

Bachelor of Computer Applications (BCA) -- Grade: 79.62% (7.69/10 CGPA)

Aug 2021 – May 2024

Dr. M.G.R Chockalingam Arts College, Arni

ACHIEVEMENTS

- ✓ Academic Rank Holder - MCA, Hindustan Institute of Technology & Science, Chennai (CGPA: 9.46 / 10).
- ✓ IEEE Conference Presenter - ICCRTEE 2026, Kalasalingam Academy of Research and Education, Tamil Nadu.
- ✓ IEEE Published Researcher - Brain Tumor Segmentation paper under IEEE Madras Section & IEEE Robotics and Automation Society.

PROJECTS & RESEARCH

DocMind AI: Intelligent Document Question Answering System

Jun - July 2026

Generative AI

- ✓ Designed and developed an end-to-end LLM-powered RAG application enabling users to upload multiple documents and receive context-aware answers using LangChain, Llama 3 (Ollama), and FAISS.
- ✓ Implemented document preprocessing, embedding generation, semantic search, prompt engineering, and a Streamlit web application with document preview, source citations, and modular architecture for scalable AI workflows.

Brain Tumor Segmentation in MRI Scans | Deep U-Net (IEEE Published)

Feb - May 2026

ICCRTEE 2026 – IEEE Madras Section & IEEE Robotics and Automation Society

- ✓ Designed and trained a U Net deep learning model on the Kaggle LGG MRI dataset (3,000+ real world medical samples).
- ✓ Built a custom OpenCV preprocessing pipeline with data augmentation; optimized using Dice Loss + Adam optimizer.

Image Caption Generator using VGG16 + LSTM (Computer Vision + NLP)

Jan - Apr 2025

Deep Learning – Multimodal AI

- ✓ Built end to end multimodal pipeline combining VGG16 CNN image embeddings with LSTM based sequence prediction.
- ✓ Trained on ~8,000 real world image-caption pairs (MSCOCO); achieved BLEU score ~0.4 using a custom Keras data generator.

INTERNSHIPS & EXPERIENCE

Research Intern – Artificial Intelligence

Aug – Oct 2025

Hindustan Institute of Technology & Science, Chennai

- ✓ Built a Chest Xray classification model using MobileNet, TensorFlow, and Grad CAM for medical image analysis.

Data Science Intern

July 2025

CodeAlpha (Remote)

- ✓ Developed ML mini projects using Python, Pandas, and Scikit-learn involving prediction, classification, and data analysis tasks.

KEY SKILLS

Languages & Tools	: Python, SQL, Git/GitHub, Jupyter Notebook, Google Colab
ML / DL Frameworks	: TensorFlow, Keras, Scikit-learn, NumPy, Pandas, OpenCV, Matplotlib
Generative AI & LLMs	: LangChain, LangGraph (Basic), RAG, Ollama (Llama3), Hugging Face, Prompt Engineering, FAISS, OpenAI API.
Core ML/DL Expertise	: CNNs, LSTMs, U-Net, Transfer Learning, Image Segmentation, NLP, Feature Engineering
Data Engineering	: ETL Pipelines, Data Ingestion, Schema Modelling, Data Wrangling, MySQL Workbench
Data Analysis & BI	: Exploratory Data Analysis, Statistical Analysis, MS Excel, Power BI, Data Visualization (Matplotlib)
DSA Fundamentals	: Arrays, Linked Lists, Stacks, Queues, Trees, Hashing, Sorting & Searching
Web & Others	: HTML, CSS, JavaScript, MySQL
Professional	: Research Documentation, Analytical Thinking, Leadership, Communication

CERTIFICATIONS AND WORKSHOPS

Introduction to Algorithms and Analysis – Elite Certificate

NPTEL / IIT Kharagpur (SWAYAM)

Intellithon'25 – 24 Hour National Hackathon

Hindustan Institute of Technology & Science (Dept. of Intelligent Systems & Cybersecurity)

Cloud Partner: Zoho

Workshop: Practical Approaches to Data Analytics Using SQL and Cloud Services

Dept. of Computer Applications, Hindustan Institute of Technology & Science

LANGUAGES

Tamil (Native) | English (Professional)