Samridhi Raj Sinha

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EDUCATION

Mukesh Patel School of Technology Management & Engineering, NMIMS, Mumbai **Expected: Aug 2026**
Bachelor of Technology in Computer Engineering **CGPA: 3.79 / 4.00**
Indian Institute of Technology, Madras, India **Expected: Sept 2026**
Bachelor of Science in Data Science and Programming (online) **CGPA: 8.5 /10.00**
Relevant coursework: *Machine Learning, Artificial Intelligence, Deep Learning, Tools in Data Science, Image and Video Processing, Data Structures & Algorithms, Modelling & Simulation, Data Analytics, Extraction & Processing*

WORK EXPERIENCE

Nanavati Max Institute of Cancer Care, Mumbai, India **September 2024 - Present**
AI & ML Research Intern

- Conducting an extensive literature review to identify and implement advanced AI techniques for breast tumor bed volume estimation from pre- and post-op scans, enhancing the accuracy of radiotherapy planning.
- Collaborating with oncologists to create tools that improve treatment delivery precision, directly benefiting patient outcomes.

Jio Platforms Limited (JPL), Mumbai, India **May 2024 - July 2024**
AI & ML Engineer Intern

- Enhanced data processing efficiency by developing an automatic annotator tool using Python and NLP techniques (**FastAPI, spaCy**), improving the process by 30%
- Implemented a low-code, multi-agent system using **CrewAI**, enabling efficient task automation and intelligent agent collaboration, resulting in a 40% reduction in development timelines.
- Gained hands-on experience in developing, collaborating and optimising complex data processing workflows.

PROJECTS

MindMate : AI Powered Mental Health Assistant https://huggingface.co/spaces/samiee2213/mindmate

- Developed an AI-powered mental health assistant using **LangChain** and **Google Gemini API,** enabling context-aware therapeutic conversations with dynamic personas.
- Built a user-friendly web app with **Streamlit** for interactive therapy sessions, utilising **SQLite** for session continuity and ensuring personalized chat experiences.

RAGE : Retrieval Augmented Generation Engine https://huggingface.co/spaces/2ss2/R.A.G.E

- Developed a Retrieval-Augmented Generation **(RAG)** system using **LangChain**, **OpenAI**, and **FAISS**, enabling multi-format document processing (PDFs, web content, audio files) with advanced semantic search and vector embeddings for efficient, context-aware information retrieval and generation.
- Integrated custom system prompts, LLMs (e.g., gpt-3.5-turbo), and FAISS vector search for semantic question answering, optimizing real-time document chunking, recursive text splitting, and content extraction across diverse data sources, enhancing query performance and cross-modal AI capabilities.

SpectraVIT : Melanoma Classification https://github.com/sam22ridhi/SpectraVIT

- Authored comprehensive research paper on the novel hybrid deep learning model combining Fourier and Wavelet transforms with Vision Transformer **(ViT)** for melanoma classification, achieving **92%+ accuracy** after 30 epochs with a 0.001 learning rate, Cosine Annealing, and AdamW optimizer.
- Implemented the model in **PyTorch**, evaluating performance with precision, recall, F1-score, ROC-AUC, and confusion matrix, and produced optimal results through extensive trials.

TraffiTrack : Drug Trafficking Detection System https://huggingface.co/spaces/samiee2213/traffitrack

- Developed a real-time web scraping and AI-powered system to detect drug trafficking on chat platforms like Telegram, Twitter identifying user IDs, phone numbers, sarcasm, and coded language
- Built a **Streamlit** app providing automated alerts for suspicious activities, supporting law enforcement with actionable insights.

TECHNICAL SKILLS

- Programming Languages: Python, C++, Java, JavaScript, SQL, HTML, CSS
- Machine Learning Frameworks: Langchain, Keras, PyTorch, Tensorflow, Scikit-Learn, FastAPI, React
- Python Packages: Pandas, Mathplotlib, Numpy, Seaborn, OpenCV, Gradio, Streamlit,
- Software: Docker, Matlab, GitHub Desktop, Microsoft Office, Visual Studio Code, Power BI

EXTRACURRICULAR ACTIVITIES

- Led research, app/web development, and organised workshops and competitions to enhance technical skills in IEEE Society(23-24Y)
- Collaborated as Technical Executive to design and develop the official website for the cultural festival Sattva(22-23Y)
- Taught girls aged 5-12, focusing on holistic education and skill development through creative learning at Children's Aid Society, Mankhurd.
- Placed 4th in Circa's Hack CodeQuest AI Hackathon among 500 participants for carbon footprint tracker AI app.