

EXPERIENCE

- **Rajasthan Mines and Minerals Ltd** Rajasthan
ML Intern *June 2024 - July 2024*
 - **Data engineering:** Designed and managed large-scale custom datasets by creating automated data retrieval and preprocessing pipelines using Python and Pandas. Developed and maintained a dynamic PostgreSQL database with SQLAlchemy for seamless data integration and storage..
 - **Neural Network Modeling:** Developed and optimized Graph Neural Networks (GNNs) in PyTorch to model spatial relationships and predict mineral deposit locations using geological and geochemical data, enabling more accurate resource exploration and extraction strategies.
- **International Relations Council** Manipal University, Jaipur
Senior Coordinator Curations
 - **Role:** Led and managed the curation of high-impact events, discussions, and workshops focused on global diplomacy, international policies, and cross-cultural understanding. Collaborated with diverse teams to design engaging programs, including panel discussions with industry experts and diplomats. Ensured seamless execution of events by coordinating with stakeholders, curating relevant materials, and fostering meaningful dialogue among participants.

PROJECTS

- **CodeMate:** Engineered and published an open-source Python library that integrates Large Language Models (LLMs) into Jupyter Notebooks, transforming them into AI-augmented development environments. Features include intelligent debugging, context-driven code generation, advanced performance profiling, and automated refactoring. Designed the library to support diverse LLM providers and locally hosted LLMs and implemented modular, extensible components to maximize usability and performance.
- **Vision Transformer (ViT) Ground-Up Custom Architecture Implementation:** Replicated Google's "An Image is Worth 16x16 Words" paper, implementing a Vision Transformer (ViT) model from scratch. Architected a custom transformer encoder featuring learnable 1D positional embeddings and multi-head self-attention mechanisms achieving state-of-the-art classification accuracy of 89 percent on CIFAR-10 with an F1 score of 0.84
- **DMark : The Decentralized Marketplace:** Architected and deployed a fully decentralized marketplace on the Ethereum mainnet and Sepolia testnet, enabling secure, trustless cryptocurrency transactions for digital products. Developed gas-efficient smart contracts in Solidity, reducing average transaction costs by 20 percent. Designed a React and Material-UI frontend with seamless Web3.js and Ethers.js integration for real-time blockchain interactions and MetaMask wallet connectivity. Implemented synchronized on-chain/off-chain data management, dynamic user authentication, and automated contract event handling. Leveraged IPFS for decentralized storage and rigorously tested for performance, scalability, and security.
- **OncoAI:** Architected a high-precision deep learning pipeline for multi-class cancer type classification across 8 cancer types. Engineered a dual-encoder 2D CNN to process normalized intensity heatmaps and raw CT slices, seamlessly integrating metadata for enriched diagnostic insights. Designed an intelligent DICOM data extraction pipeline leveraging Hounsfield Unit normalization, spatial resampling, and metadata encoding to optimize multi-modal input representation.

EDUCATION

- **Delhi Public School** Udaipur, Rajasthan
Percentage: 93.5 *May. 2012 – April. 2022*
- **Manipal University Jaipur** Jaipur, India
Bachelor of Engineering in Computer Science; Latest GPA: 8.75 *August. 2022 – Present*

SKILLS

- **Programming Languages:** Python, C++, SQL, Solidity, Javascript, PHP,
- **Programming Frameworks:** AWS, Pytorch, OpenCV, HuggingFace, Matplotlib, React, MaterialUI, Ethers.js
- **Technologies:** Deep Learning, Computer Vision, Web3, Weights and Biases, Docker, Git, Linux
- **Languages:** English (Full Professional Proficiency), Hindi (Native), French (Conversational Proficiency)