B Samrat

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EDUCATION

IIIT Sri City, Chittoor **B Tech(HONS)**
(2020-2024) (cgpa: 7.5/10)

WORK EXPERIENCE

AI/ML Intern (01/2024-present)

Maximl

- Lead document classification and extraction projects utilizing NLP, CV, and DL methodologies.
- Extended for participation in a semester-long project (SLP) and placement program.

ML Research Intern (06/2023 - 08/2023)

ISRO Funded Project at IIIT Sri City

- Independently conducted denoising on Chandrayaan-2 data, leveraging CNN with SURE loss function.
- Presented findings at WHISPERS 2023 and INGARSS 2023 conferences.

ML Intern (08/2023 - 11/2023)

Terrafic

- Implemented Sam and Sam-Geo models for detecting buildings and roads in satellite images.
- Focused on urban and rural imagery from Jammu and Chennai.

SKILLS & FRAMEWORKS

C C++ JAVA PYTHON Pytorch TensorFlow Keras OpenCV Scikit-Learn Html CSS JavaScript ReactJs NodeJs express MERN Stack Bootstrap MongoDB Webflow

TECHNICAL PROJECTS

Hyperspectral Image Classification using Graph Based Neural Networks.

- Implemented 1D CNN, 2D CNN, GCN algorithms for mineral mapping, demonstrating strong data preprocessing skills.
- Implemented in **TensorFlow.** Github

TinyVGG Custom CNN

- Tailored VGG architecture for food classification, employing convolutional layers and max-pooling.
- Implemented using **PyTorch.** Github

Hand Gesture Counter

- Real-time program using OpenCV for gesture recognition, enabling hands-free interaction.
- Implemented using **OpenCV** Github

Multimodal AI Assistant for Text, Image, and Document Generation

- Multimodal AI Assistant: 1000-word answers, image generation, and formatted PDFs with user input.
- Automated content creation with ChatGPT, MinDalle, and FPDF. (OpenAI, NLP, Text Generation, Image Generation) GitHub

PUBLICATIONS

IEEE International Geoscience and Remote Sensing Symposium 2023 California (IGARSS 2023)

The focus of my paper, titled '***Decoding the Moon's Surface: A Graph Neural Network-Based Analysis of Chandrayaan-2 Lunar Data Classification***,' centers on mineral mapping in the lunar surface. This analysis is conducted using IIRS and M3 hyperspectral data.

Workshop on Hyperspectral Image and Signal Processing : Evolution in Remote Sensing Greece (Whispers 2023)

In my paper titled "***Advancing Hyperspectral Image Quality: Deep Learning-Driven Denoising with SURE Loss Function for Chandrayaan-2 IIRS Dataset,***" I focus on the denoising of Lunar images obtained from both Chandrayaan-2 and Chandrayaan-1 missions.

NASA Exploration Science Forum 2023

The abstract titled '***Latent Space Graph Convolutional Networks for Accurate Classification of Chandrayaan-2 Lunar Hyperspectral Images***' has been accepted. The research focuses on mineral mapping in the lunar surface using data from IIRS and M3 from the Chandrayaan mission.

ACHIEVEMENTS

- Awarded a $2000 travel grant for IEEE IGARSS 2023 conference.
- Presented abstract and poster at NASA Science Exploration Forum 2023, with registration fee waived off.
- Selected project ideas in the pre-qualifiers round of the NATIONAL SEO IDEATHON 2023 IEEE GRSS Bombay Chapter.
- Received a travel grant to present my paper at INGARSS 2023 Bangalore.

Certifications

PyTorch for Deep Learning **certification**

Python for Computer Vision with OpenCV and Deep Learning **certification**