HRITHICK SEN

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SKILLS & CERTIFICATIONS

Programming	Python, MySQL, C
Machine Learning Algorithms	Linear models, KNN, Decision Trees, Ensemble methods, Clustering models, MLP, CNN, RNNs (LSTM & GRU), Word2Vec, Transformers (BERT, T5, ViT, GPTs), LLM, Generative AI, GAN & VAE
Cloud Services	Amazon Web Services (AWS) [IAM, EC2, S3, EBS, Sagemaker]
Data Visualization	Matplotlib, Seaborn, Plotly
Tools and Frameworks	TensorFlow 2, PyTorch, HuggingFace, Git, JIRA
Certifications	Applied AI Course

PROFESSIONAL EXPERIENCE

OGMA Conceptions — Kolkata, IN
Data Scientist (Full-Time) — June 2022 - Present

- Accelerated an OCR-free layout invariant information extraction system to retrieve relevant information from handwritten and printed logistic tickets. This led to a **~91% reduction in cost and time** dedicated to the manual verification of the tickets. Improved the previous system, negating retraining requirements for unseen tickets, thereby enhancing performance and efficiency for processing unseen truck tickets.
- Programmed an efficient OCR system on mobile to extract meaningful information from US driving licenses, **reducing time for manual verification by ~71%** and improving the trucking business's comprehensibility.

Openstream.ai — Bengaluru, IN
Data Scientist (Full-Time) — Jan 2022 - June 2022

- Collaborated with the data science team and delivered impactful business solutions to clients from various domains by developing a robust question-answering system to extract insights from PDFs. Leveraged models such as DETR, BERT, and YOLO to automate data ingestion to Knowledge Graph (KG).
- Programmed a table extraction system using DETR and PaddleOCR, enhancing the data ingestion into a knowledge graph which also boosted efficiency and **eliminated manual data entry by ~98%**.

Kesowa Infinite Ventures — Bengaluru, IN
Machine Learning Engineer (Internship) — Apr 2021 - Jan 2022

- Optimized and improved the performance metric of the tree detection model on large aerial images (>25GB), reducing training time and enhanced post-processing for shape file generation, enabling QGIS visualization.
- Programmed an automated attendance system leveraging Siamese network for face recognition/verification, specifically designed for company employees and deployed on a Jetson Nano.

EDUCATION

Global Institute of Management and Technology — West Bengal, IN
Bachelor of Technology in Electronics and Communication Engineering, CGPA: 8.8/10.00 — 2018 - 2022

- Coursework: Data structures and Algorithms, Signals and Systems, Artificial Intelligence, C

DATA SCIENCE PROJECT

Vision Transformer implementation from Scratch using TensorFlow 2 (25 stars) ↗ — Jan 2023

- Implemented the paper "An Image is Worth 16x16 Words: Transformers for Image Recognition at Scale" - Vision Transformers.
- Provides effortless for Fine Tuning Pretrained ViT models with Minimal Code and Maximum Flexibility on Custom Datasets. Supported models: ViT-BASE16, ViT-BASE32, ViT-Large16, ViT-Large32.

Spanish to English Translator using Transformer (5 stars) ↗ — Jan 2023

- Implemented the paper "Attention Is All You Need" - The transformer architecture using TensorFlow 2 With a focus on English to Spanish translation. Cross attention maps were visualized to understand how spanish tokens are related with english tokens. The model archives a decent test accuracy.

Google Satellite Image to Streetmap Image translation using Pix2Pix (28 stars) ↗ — Feb 2021

- Leveraged a conditional generative adversarial network (cGAN) named Pix2Pix for the Image-to-image translation task. Corresponding **blog** to demonstrate how GANs work.
- Implements the Pix2Pix GAN model for performing Google Satellite Image to Streetmap Image translation. By training on paired images, it generates realistic street maps that align with the corresponding satellite images.