Mownetharan A K S

[aksmownetharan@gmail.com](mailto:aksmownetharan@gmail.com)

+91 9840895746

Bangalore

[linkedin.com/in/mowne](https://www.linkedin.com/in/mownetharan-a-k-s-6b57536a/)

github.com/mowne67/Portfolio-Mowne

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| EDUCATION |
| **Indian Institute of Technology Madras Chennai** |
| *B.Tech in Aerospace Engineering May 2022* |
| - Coursework: Data Analytics, Applied Statistics, Probabilistic Systems Analysis & Applied Probability, Linear Algebra, Differential Equations, Complex Variables, Python for Data Science |
| SKILLS & CERTIFICATIONS |
| * **Certifications**: Generative AI by Microsoft, Deep Learning with Tensorflow, Machine Learning, Computer Vision * **Skills**: Python, EDA, Modelling, NLP, SQL querying, Cloudera CDSW, Pipelines, Vision, RAG & fine-tuning LLMs * ***Libraries****: Pandas, Scikit-Learn, Tensorflow, Numpy, ScraPy, PyTorch, Streamlit, Flask, OpenCV, PySpark* * ***LLM packages****: Gemini AI, Llama 2, OpenAI, LangChain* |
| PROFESSIONAL EXPERIENCE |
| **IQVIA Bangalore** |
| *Data Scientist (Jan 2023 - \*)* |
| * Developed an NLP tool using Gemini AI with the interface of Streamlit to perform text preprocessing, clustering, topic modelling and word frequency analysis from datasets like survey responses, comments, etc. * Conducted Robustness Testing on a Price Elasticity model pipeline in Cloudera CDSW with comparative inflation analysis to evaluate pricing strategies on pharmaceuticals, ensuring strategic pricing decisions were data-driven. * Enhanced various projects like AI Survey Automation, Market Segmentation, Persona Enrichment to improve target identification & market strategies with modelling and extrapolation techniques. |
| *Associate Software Engineer (AI/ML) (Jul 2022 - Dec 2022)* |
| * Built data pre-processing pipelines to collect & prepare datasets to be used for pre-trained text-based deep learning models. * Deployed deep learning models like XClass, WeSH etc on pre-processed label data for text-based classification with 70+ classes * Developed APIs to extract data from label PDF files into DOCX, XML and JSON formats |
| **The Prints Company Remote** |
| *Machine Learning Engineer Intern (Feb 2022 - Mar 2022)* |
| * Deployed Generative Adversarial Network StyleGAN2 with PyTorch to generate designs similar to training data. * Developed 5 new web-crawling spiders with ScraPy to scrape high quality design images from popular stock image sites. * Handled data resizing & cleaned junk from 10,000+ scraped raw training images with VGG-16 clustering model. |
| PROJECTS |
| **LLM Applications** *(March 2024)* |
| * Developed a generative movie script authoring tool using fine-tuned LLMs (Gemini) for plot exploration and script generation based on user input variables. * Developed a RAG-based LLM application that performs Topic Modelling & Querying capabilities using LLAMA2 which makes use of Similarity Search with FAISS Index. * Explored You-Only-Look-Once (YOLO) models to perform Object detection and tracking of CCTV data to generate customer & behavior insights and Generate reports using various LLMs. |
| **Transfer Learning for Natural Language Processing** |
| * Implemented various pre-trained NLP text embedding models NNLM, USE, GNews Swivel from Tensorflow Hub. * Performed transfer learning to fine-tune models of various dimensions on Quora Insincere Questions Dataset. * Visualized performance metrics with TensorBoard for fine-tuned and high dimensioned version of all models. |
| **Term Deposit Marketing Classification** |
| * Classified Term Deposit subscription with data from 40000+ calls made by a Portuguese banking institution. * Trained and Tested Random Forest Classifier, Logistic Regression, Support Vector Machine & KNN models. * Generated Synthetic samples from minority class to diagnose Class Imbalance with SMOTE method. |
| **COVID-19 Data Exploration & Analysis** |
| * Explored COVID19 dataset, published by John Hopkins University along with World Happiness Report dataset. * Visualized two datasets, revealing a surprising relationship between maximum infection rates and happiness factors |
| LEADERSHIP EXPERIENCE |
| **Saarang (Cultural fest of IIT Madras) Chennai** |
| *Publicity Coordinator Mar 2018- Mar 2019* |
| * Spearheaded a team of 50 ambassadors across various colleges to publicize Saarang 2019 in Tamil Nadu. * Amplified the outreach with a 28% increase in footfall in Saarang from 70,000 in 2018 to 90,000 in 2019. |