

EDUCATION				
Program	Institution	CGPA/%	Year of Completion	
Dual Degree in Biological Sciences	Indian Institute of Technology, Madras	7.94	2019-2024	
XII (GSEB)	Best High School, Ahmedabad	80%	2019	
X (GSEB)	Best High School, Ahmedabad	87.17%	2017	
SCHOLASTIC ACHIEVEMENTS				
<ul style="list-style-type: none">Only student from 2019 batch to achieve Panasonic Scholarship ProgramGold Medal for Class Rank 1, cleared 1st Level and secured Int. Rank 3359 in 2nd Level of National Science Olympiad in Class XSecured International Rank 859 in International Science Olympiad in Class IX conducted by Science Olympiad Foundation (SOF)				
RELEVANT COURSES AND SKILL		*Completed Prof. Course, ** Coursera, ***NPTEL		
<ul style="list-style-type: none">Data Structures & Algorithms for Biology*Statistics for Data Science with Python**Introduction to Machine Learning***	<ul style="list-style-type: none">Biostatistics*Convolutional Neural Networks**	<ul style="list-style-type: none">Fundamentals of Operation Research*Introduction to DL & NNs with Keras **		
Programming Languages: C, SQL, Python, React, React Native		Hackathons	Univ.Ai	
WORK EXPERIENCE				
ML Engineer Intern FN MathLogic Consulting Services Gurgaon <i>May'23 – July '23</i>	<i>Developing a Conversational Question Answering System using Large Language Models (LLMs)</i>			
	<ul style="list-style-type: none">Explored LLM memory retention via finetuning methods LoRA & QLoRA on ICICI Lombard Policy QnA dataImplemented Transfer Learning on Microsoft's DialoGPT model that retained chat memory for 4-5 conversationsAchieved 60% ROUGE SCORE on DialoGPT also used Reinforcement Learning from Human Feedback method with GPT gave 25% rouge scoreNode JS based frontend took user queries. Used Dialogflow to detect intentions from user messagesFastAPI based backend calls LLM model to generate answer and send them back to frontend			
	<i>Document Parsing for Question Answering using LLMs with Langchain framework</i>			
	<ul style="list-style-type: none">Transformed ICICI Lombard docs into chunks, each were converted to embedding using LLM/encoder-only modelUsed Langchain to retrieve top similar chunks to user's query which are given to LLM for answer generationUtilized Flan-T5 model as LLM & embedding of HuggingFace platform led to 30% rouge score on test dataset			
ML Intern Street Style Store <i>May'22 – Aug'22</i>	<i>Conversation Classification for Enhancing User Experience</i>			
	<ul style="list-style-type: none">Worked on Classification of conversation between user & agent regarding online order to improve user experienceUtilized N-grams stored as Bag of Words & compared Recall values for SVM model that gave 96.4% accuracy			
Data Science Intern Supratech Lab Gujarat <i>Nov'21 – Dec'21</i>	<i>Machine Learning Modeling for Optimizing IVF process</i>			
	<ul style="list-style-type: none">Identified crucial biomarker genes for IVF that enabled successful implantation, enhancing IVF treatmentsEmployed PCA & t-SNE for dimensionality reduction & conducted T-test calculating P values that reduced 57k GenelDs features to 6kUsed Feature Importance of Random forest on data and trained XGBoost model that achieved 82% accuracy			
RESEARCH EXPERIENCE				
ML Research Intern IIT Varanasi Research Paper <i>June'21 – July'21</i>	Machine Learning for Milk Foam Analysis, Guide: Prof. Abhishek Dhoble			
	<ul style="list-style-type: none">Worked on Classification of Surfactants to study milk foam quality as demand for Cappuccino foams has increasedRandomforest achieved 0.955 roc-auc score & 88.1% test accuracy, also applied algorithms eg SVM, XGBoost etcExplored Casein reaction with surfactants, this study also got published as the research paper in Springer Nature			
DDP PROJECT IIT Madras <i>July'23- Ongoing</i>	Evaluating ML models for Chest X-ray of Diseases, Guide: Prof. Ganapathy Krishnamurthi			
	<ul style="list-style-type: none">Applied Transfer Learning on Ensemble of CNN models & Self Supervised methods for Pneumonia detectionImplemented Image Data Generator for increasing training data to avoid overfitting & obtained 93.7% accuracy			
COURSEWORK				
EddyNet: For Pixel-Wise Classification of Oceanic Eddies, [OE5015: Machine Learning for Ocean Engineers]				
<ul style="list-style-type: none">Classified sea surface height maps using EddyNet, comprising convolutional encoder-decoder U-Net and a pixelwise classification layerFor multiclass classification used one-vs-all soft dice loss. Accuracy from Dice Loss is 89.08% and Categorical Cross Entropy gave 90.61				
PROJECTS				
Stocks & Crypto Currencies Price Prediction Using LSTM				
<ul style="list-style-type: none">Developed Long Short-Term Memory (LSTM) models with Keras to predict Closing price values based on over a decade of trade dataWhile training, past 19 days values used as input to predict next day's value. Achieved mean squared error (MSE) of 0.465 on testdata				
Netflix Movies and TV Shows Recommendations				
<ul style="list-style-type: none">Developed Recommender System using Content based method for Netflix movies and TV shows recommendationsAlso provided recommendations for books using LightFM hybrid recommender which incorporates both item and user metadata				
Quora Question Pairs				
<ul style="list-style-type: none">Examined whether the questions in each pair are similar or not by calculating cosine similarity between the questionsUsed GloVe embeddings, tf-idf and doc2vec vectorizer that achieved maximum accuracy of 66% in latter two methods				
POSITION OF RESPONSIBILITY				
Computer Vision & Intelligence Club Project Member, Shaastra 2022			<i>June'21 – April'22</i>	
<ul style="list-style-type: none">Worked on YOLO v5 model for detecting circuit components and the mAP score of the model evaluated with 25 images is 92.7%Detected terminal points, nodes in circuit using BFS algorithm and generated netlist about connectivity of components with others				
Biogen Super Coordinator, Shaastra 2022			<i>July'21 – Jan'22</i>	
<ul style="list-style-type: none">Supervised all the coordinators in theme ideation & related events to be organized related to biotechnology under the Biogen TeamCollaborated with other teams of Shaastra which help organizing event and also assist them with the publicity of the event				
EXTRA-CURRICULAR ACTIVITIES				
Sports	<ul style="list-style-type: none">Selected for NSO Fitness program and also participated in Samanvay Marathon 2019			