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EDUCATION

Program	Institution	CGPA/%	Year
B. Tech in Chemical Engineering	Indian Institute of Technology Madras	8.76	2023
Class XII, CBSE	Maharishi International Residential School, Kanchipuram	95.2	2019
Class X, CBSE	Mahatma Montessori School CBSE, Madurai	10.0	2017

- Awarded Branch Change for **Distinguished Academic Performance,** standing **Top 5%** in the branch *(2019)*
- Secured **Best** rank in **National Mathematics Talent Search** by **Ramanujam Mathematics Academy** *(2016)*
- Awarded **Credit** in **International Mathematics Olympiad** conducted by **The University of New South Wales** *(2011)*
- Scored **Excellent Performance** in **UNIFIED CYBER OLYMPIAD** with **AIR – 2045** *(2015)*
- Scored **Excellent Performance** in **UNIFIED INTERNATIONAL ENGLISH OLYMPIAD** with **AIR – 2196** *(2015)*

RELEVANT COURSES AND SKILLS

Machine Learning with Python*	Series and Matrices	Data structures and Algorithms in Biology
Probability, Statistics & Stochastic Processes	Python Specialization*	Data Scientist Nanodegree * +
Fundamentals in Operational Research	Computational Techniques	Mathematical Foundations of Data Science+
Advanced Operational Research	Process Optimization+	* - Online Course + - Ongoing Course

Languages and tools: C++, Python, SQL, MATLAB **Python libraries:** sklearn, pandas, NumPy, TensorFlow, Keras, nltk

PROJECTS

FUNGUS DETECTION IN ARECA NUT LEAVES *June 2021 (ongoing)*

Guide – Dr. Sridharakumar Narasimhan, Department of Chemical Engineering, IIT Madras

- Devised an **Image Segmentation Pipeline** for detecting fungal spots on infected Areca Nut leaves' images
- Performed **GrabCut** Algorithm on the image to extract the foreground image from its background to isolate the leaf area
- The foreground image was subjected to **K-Means Clustering** and was grouped into K number of clusters
- **Gray Scale** transformation was applied to the images, in addition to **Gaussian Blurring**
- The resulting images were filtered using **Otsu Threshold** and the final output binary images were obtained
- The final output highlights the fungus infection by allotting complementary pixels to the leaf sheath and infection spots

DISASTER RESPONSE PIPELINE *Course Project – Data Scientist Nanodegree* *Jan 2022*

- Applied various **Data Engineering** skills to analyze a real time disaster response dataset acquired from Figure Eight
- Built a classifier model for an interactive **web app** that classifies the disaster messages and displays data visualizations
- Built **Machine Learning** and **Natural Language Processing Pipelines** in order to implement the classification model

SIMILARITY BASED RECOMMENDATION SYSTEM *Coursera Project Network* *July 2021*

- Explored the dataset to find the distribution of various features and constructed the **User-Item interaction matrix**
- Designed a Naive Recommendation Engine using **Cosine Similarity** and **Euclidean distance** to find user affinity
- **Dimensionality reduction** was performed using **Singular Value Decomposition (SVD)** to enhance the results
- Experimented with **Collaborative Filtering Techniques** using **Alternating Least Squares (ALS)** to tackle the sparsity

CUSTOMER MARKET SEGMENTATION *Coursera Project Network* *July 2021*

- **Customer Segmentation** was performed on Credit Card Transaction dataset using **K-Means Clustering**
- **Elbow method** was deployed to identify the **Optimal K** by using **Silhouette Score** and **Inertia** as evaluation metrics
- **Engineered features** using **Principal Component Analysis (PCA)** for improving and validating the performance

LOAN RISK CLASSIFIER *Course Project – Machine Learning with Python* *March-2021*

- Performed **Exploratory Data Analysis** on the Loan Classification dataset to identify salient features for model building
- Experimented with **KNN-Classifier, Decision Tree, Support Vector Machine** and **Logistic Regression**
- Reported the performance of classifiers with **Accuracy score, Jaccard Index, F1-score, Log Loss, AUC and ROC score**

POSITION OF RESPONSIBILITIES

Shaastra'20 Publicity Volunteer (2020)
- Organized **Shaastra 2020** - India's largest student run tech fest with 1000+ footfall as a Volunteer for **Publicity Team**

EXTRA AND CO-CURRICULAR ACTIVITIES

- Co-Authored an anthology novel '**Words Within**', sold in Amazon, which once stood 2nd in Notion Press (2020)
- Certified as a Student Leader by **NALS Out Bound School Students Leadership Program** approved by **GOI** (2014)
- Stood first in **Reynolds Writewiz** essay competition, conducted nationwide (2015)