Krishna Shanmughan

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EDUCATION

YEAR	QUALIFICATION	EDUCATIONAL INSTITUTION	PERCENTAGE
2025 - Present	**M.Tech | Department of Management Sciences**	Indian Institute of Technology Kanpur	-
2019-2023	B. Tech | Mechanical Engineering	Government Engineering College Thrissur, Kerala	7.78 CGPA
2018	Higher Secondary Education	Don Bosco HSS Mannuthy, Thrissur, Kerala	91.33%
2016	Secondary Education	Government Higher Secondary School Kizhakkencherry, Palakkad, Kerala	95.46%

WORK EXPERIENCE (06 months)

Graduate Engineer Trainee @ Apollo Tyres Ltd. *(Aug'23-March'24)*

- Worked in RMS (Raw Material Stores) operations.

PROJECTS

Customer Segmentation | Machine Learning | Clustering (GitHub Link) | (Self Project)

Objective	Predicted customer segments using demographic data, marketing-specific metrics, customer engagement indicators, and spending behavior data.
Approach	• Performed data visualization, including histograms, count plots, and scatter plots, to understand the relationships between features. • Applied **K-Means clustering** for segmentation: Age & Spending Score, Annual Income & Spending Score, Age, Annual Income & Spending Score. • Plotted the inertia using the **Elbow Method** to select the optimal number of clusters for each segmentation. • Visualized the clusters and their boundaries for better interpretation.
Result	Successfully segmented customers into distinct groups using K-Means clustering, allowing for targeted marketing strategies based on demographic and behavioral data.

Big Mart Sales Prediction | Machine Learning | Linear Regression (GitHub Link) | (Self Project)

Objective	To build a predictive model and find out the sales of each product at a particular store.
Approach	• Analyzed a dataset of 8523 entries with 12 features, detailing characteristics of individual products. • Conducted comprehensive **EDA**, including data visualization and bivariate analysis. • Imputed missing values using **statistical methods** and performed VIF-based feature selection. • Treated outliers and engineered features to enhance model performance. • Implemented **Linear Regression, Gradient Boosting Regressor, XGB Regressor, Lasso**, and **Ridge** models for prediction.
Result	Best result shows the **Gradient Boosting Regressor** with 0.6 **Rsquare** and **RMSE** of 1038.2

COURSEWORK AND SKILLS

Academics Courses	**Probability & Statistics* | Operations Research for Management* | Data Mining and Knowledge Discovery* | Introduction to Computing***
Technical Skills	Python* |Machine Learning* |Power BI*|MS Excel | MS PowerPoint
Non-Technical Skills	Analytical Thinking | Problem Solving Approach | Strategic Thinking | Decision Making | Adaptability | Team Management | Communication Skills | Leadership | Team Work | Initiative Taking Skill

EXTRACURRICULARS

- SAEINDIA Member (2019–2023), GECT: Actively participated in national-level student vehicle competitions.
- Suspension Lead – eBAJA 2023: Led suspension system development and testing for electric off-road vehicle.
- Participant – eBAJA 2022: Contributed across multiple areas including steering, assembly, and testing.
- Participant – MEGA ATV Championship 2022: Assisted in vehicle preparation and performance during the national-level ATV event.

ACHIEVEMENTS

- Secured **AIR 84** in PI-GATE 2025.
- Secured **AIR 16** – EBAJA 2023 (National-level student vehicle competition conducted by SAEINDIA).
- Secured **AIR 33** – EBAJA 2022 (National-level student vehicle competition conducted by SAEINDIA)
- Secured **Rank 6** – MEGA ATV Championship 2022 (National-level student vehicle competition conducted by AUTOSPORTS INDIA).
- Secured **3rd** Position in Diagrammatic Reasoning, SAEINDIA Tier II Convention (2019-2020).

*Present / Under Progress