



SNEHIL VIJAYVARGIYA

Data Science Enthusiast

INTERNSHIP

KSCSTE-NATPAC

Kochi - Kerala

May'2023 - July'2023

Project 1 : Multimodal Travel Behavior Analysis and ICLV Modeling for Enhanced Urban Mobility

- Compared 6 travel modes using Python visualization like folium & plotly, yielding 50+ origin-destination matrices
- Designed surveys, preprocessed respondents' data, and built ICLV model for improved mode-choice predictions
- Enriched mode choice predictive modeling by quantifying unobserved variables' impact on travel preferences

Project 2 : Mobility Pattern Analysis using BSNL Mobile Tower Data of Ernakulam City

- Analyzed 7M+ BSNL mobile users' records with multiprocessing to quantify the inter-tower customer mobility
- Utilized Geopandas to create Thiessen polygons (TAZ), enhancing spatial analysis through heatmap visualization

PUBLICATION

International Conference on Transportation and Development (2023) , ASCE, Texas, USA

"Identification of Factors Influencing the Adoption and Use of Electric Cars on Indian Roads Based on Public Perception"

June'2023

- Employed Hierarchical cluster Analysis (HCA) for respondent categorization, using Silhouette score as validation
- Conducted Exploratory Factor Analysis & UTAUT to identify E-car adoption factors & market penetration tendency

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'Kanha' Railway Station Road,
Malhargarh, M.P.

EDUCATION

IIT KHARAGPUR

M.Tech in Transportation Engineering
2022-2024
Grade - 9.68

SGSITS, Indore

B.Tech in Civil Engineering
2018-2022
Grade - 7.90

HARD SKILLS

- Python
- SQL
- Statistical Analysis (MS Excel, SPSS)
- Machine Learning
- Deep Learning
- Data Visualization (Tableau)
- Python Libraries (Numpy, Pandas, Matplotlib, Scikit Learn, Tensorflow)

SOFT SKILLS / HOBBIES

- Observation
- Problem Solving
- Decision Making
- Research
- Travelling
- Volleyball

ACHIEVEMENTS

- Secured AIR 1042 among 1 lakh candidates in Graduate Aptitude Test in Engineering (CE) with 98.96 percentile

CERTIFICATIONS

- **Data Visualization: Empowering Business with Effective Insights by Forage**

Data Visualization | Tableau

Aug'2023

- **Structured Query Language by Simply Learn** : RDBMS | SQL Fundamentals | Querying Data| Joins & Subqueries

Sept'2023

- **Data Science Foundation by LinkedIn Learning** : Machine Learning | Tableau | SQL | Deep Learning | Image Processing

Sept'2023

EXTRA CURRICULAR ACTIVITIES

- Volunteered at IIT Kharagpur's 68th Convocation, handling alumni accommodations and dining
- Secured 2nd place in the 35th National Shooting Ball Championship held in Bhopal

CONFERENCES

Presented a research paper in 103rd Annual Conference of Transportation Research Board, Washington D.C.,USA

Jan'2024

“ Investigation of 2-Wheeler Users' Road Safety Perceptions and Infrastructural Needs under Mixed Traffic using ML ”

PROJECTS

Conflict Based Collision Avoidance System at Un-signalized Intersection

July'2023-Till date

- Employed Computer Vision Techniques - YOLO to extract real-time vehicle trajectories from Drone Video data
- Examining intercity highway junction conflicts, using Logistic Regression Model to determine influential factors
- Classifying the critical conflicts using K-Means clustering model on the basis of various proximal safety indicators
- Creating a Collision Avoidance Warning System alerting drivers for potential conflicts at un-signalized intersections

2-Wheeler's Road Safety Perception and Infrastructural Demand Assessment

Dec'2022 - Jan'2023

- Designed questionnaire to comprehend 2-wheeler riders' road safety behavior, collecting 350+ valuable responses
- Employed Clustering Techniques for 2- wheeler riders' socio-demographic clustering, yielding to four clusters
- Employed PCA on road safety perception related variables and linked resulted 5 components to clusters using MLR

POSITION OF RESPONSIBILITY

Teaching Assistant at IIT Kharagpur

Aug'2023 - April'2024

- Conducted Theoretical & Experimental tutorials & supervised 30+ students for various material testing experiments