

## Project Design Phase Solution Architecture

Date	03 October 2023
Project Name	Project – Understanding Audience: A Machine Learning Approach to Customer Segmentation
Maximum Marks	4 Marks

### Solution Architecture:

The model will examine historical data on past travel insurance purchases, demographic information, and travel itinerary to predict the likelihood of an individual purchasing travel insurance. It begins by collecting historical travel and insurance data from various sources, followed by a data preprocessing stage to refine the dataset. Machine learning models are employed to predict insurance claim probabilities, adapting to changing trends. The project is finalized with a user-friendly API or web interface for real-time predictions, ensuring accessibility and scalability. This architecture enhances the travel insurance experience for customers while effectively managing risk for insurance providers.

Our solution K-Means Clustering leverages to address the Understanding Audience: A Machine Learning Approach to Customer Segmentation classification problem effectively.

1. Data Collection
2. Data Preprocessing
3. Model Selection
4. Training the Model
5. Validation and Testing
6. Application
7. Monitoring and Feedback

**Solution Architecture Diagram:**

