**Automatidata Proposal**

## **Overview:**

The New York City Taxi and Limousine Commission (TLC) has partnered with Automatidata to develop **a regression model that predicts taxi fares before a ride**. This project leverages TLC's extensive dataset, which includes over one million daily trips, to provide a data-driven solution that enhances fare transparency, operational efficiency, and customer trust. By utilizing advanced data analysis techniques, feature engineering, and machine learning methodologies, this project aims to create a robust, accurate, and user-friendly predictive model that aligns with TLC's goals of improving service quality and optimizing resources.

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| **Milestone** | **Tasks** | **Deliverables/Reports** | **Relevant Stakeholder** |
| **1** | Establish structure for project workflow (PACE)  Plan | Global-level project document | **Automatidata Team:**   * Senior Project Manager: Ensures the workflow structure aligns with project timelines and goals. * Udo Bankole (Director of Data Analysis): Provides high-level input and approval for the workflow structure. |
| **1a** | Write a project proposal  Plan |  | **Automatidata Team:**   * Senior Project Manager: Coordinates and oversees proposal drafting. * Senior Data Analyst: Contributes technical input to the proposal.   **NYC TLC Team:**   * Finance and Administration Department Head: Ensures the proposal aligns with TLC’s business objectives. * Operations Manager: Validates the project’s operational feasibility. |
| **2** | Compile summary information about the data  Analyze | Data files ready for EDA | **Automatidata Team:**   * Senior Data Analyst: Leads data compilation and prepares files for EDA. * Data Analysis Manager: Reviews and validates data preparation to ensure readiness. |
| **2a** | Begin exploring the data  Analyze |  | **Automatidata Team:**   * Senior Data Analyst: Conducts initial data exploration and identifies trends or issues. * Data Analysis Manager: Supervises and provides guidance during exploration.   **NYC TLC Team:**   * Finance and Administration Department Head: May review findings from the exploration to ensure business relevance. |
| **3** | Data exploration and cleaning  Analyze **and** Construct | EDA report | **Automatidata Team:**   * Senior Data Analyst: Leads data exploration and cleaning efforts. * Data Analysis Manager: Oversees the EDA process and ensures data quality.   **NYC TLC Team:**   * Finance and Administration Department Head: May review the EDA report to confirm the data aligns with TLC's needs and business objectives. |
| **3a** | Visualization building  Analyze **and** Construct | Tableau dashboard/visualizations | **Automatidata Team:**   * Senior Data Analyst: Creates dashboards and visualizations using tools like Tableau. * Data Analysis Manager: Reviews visualizations for accuracy and clarity.   **NYC TLC Team:**   * Finance and Administration Department Head: Provides feedback to ensure visualizations meet operational and reporting requirements. * Operations Manager: Confirms visualizations offer actionable insights for operations. |
| **4** | Compute descriptive statistics  Analyze | Analysis of testing results between two important variables | **Automatidata Team:**   * Senior Data Analyst: Computes and analyzes descriptive statistics. * Data Analysis Manager: Reviews the statistical results and ensures alignment with project objectives. |
| **4a** | Conduct hypothesis testing  Analyze **and** Construct |  | **Automatidata Team:**   * Senior Data Analyst: Performs hypothesis testing to validate relationships between variables. * Data Analysis Manager: Guides the selection of tests and reviews outcomes.   **NYC TLC Team:**   * Finance and Administration Department Head: Interprets results to confirm alignment with TLC’s strategic goals. |
| **5** | Build a regression model  Analyze **and** Construct |  | **Automatidata Team:**   * Senior Data Analyst: Develops and trains the regression model. * Data Analysis Manager: Supervises the modeling process and ensures compliance with best practices. |
| **5a** | Evaluate the model  Construct | Determine the success of the model | **Automatidata Team:**   * Senior Data Analyst: Conducts model evaluation to determine its success using performance metrics. * Data Analysis Manager: Validates the evaluation results and recommends adjustments if necessary.   **NYC TLC Team:**   * Operations Manager: Provides feedback on model performance and its practical applications. |
| **6** | Build a machine learning model  Construct | Final model | **Automatidata Team:**   * Senior Data Analyst: Develops and trains the machine learning model. * Data Analysis Manager: Oversees the modeling process and ensures it meets project requirements. * Director of Data Analysis: Provides high-level guidance and approval for the final model. |
| **6a** | Communicate final insights with stakeholders  Execute | Report to all stakeholders | **Automatidata Team:**   * Senior Project Manager: Prepares and delivers reports to all stakeholders. * Senior Data Analyst: Contributes technical insights to the final report. * Data Analysis Manager: Ensures the report aligns with project goals and stakeholder expectations.   **NYC TLC Team:**   * Finance and Administration Department Head: Reviews the insights for financial and strategic alignment. * Operations Manager: Validates operational relevance and practicality of recommendations. |