INTERNSHIP: STUDENT DAILY REPORT

|  |  |
| --- | --- |
| Name of the Student | Vivek kumar Shriwas |
| Internship Project Topic | TCS iON RIO-125: Forecasting System - Project Demand of Products at a Retail Outlet Based on Historical Data |
| Name of the Organization | TCS iON |
| Name of the Industry Mentor | Sreekathiayini Ruthraiyah |
| Name of the Institute | Viswakarma University |

|  |  |  |
| --- | --- | --- |
| Date | Day | Hours Spent |
| 12/08/2023 | Day 26 | 4 hours and 30 minutes |
| Description:  **Self-learning Duration : hours**  **Activity Report Duration : 30 minutes**  **Activities:**   1. **Refining ARIMA-X Model (2 hours):**    * Continued working on the ARIMA-X model with exogenous variables.    * Processed the selected external factors and prepared the data for integration.    * Integrated the exogenous variables into the ARIMA framework and fine-tuned their coefficients.    * Ran initial tests to assess the impact of the exogenous variables on the model's performance. 2. **Researching Model Evaluation Techniques (1 hour):**    * Explored various techniques to evaluate the performance of time series forecasting models.    * Investigated metrics such as Mean Absolute Error (MAE), Root Mean Squared Error (RMSE), and Mean Absolute Percentage Error (MAPE).    * Researched the importance of selecting appropriate evaluation metrics based on the specific characteristics of the data. 3. **Updating Project Documentation (1 hour and 30 minutes):**    * Documented the process of integrating exogenous variables into the ARIMA model.    * Recorded the challenges faced and the decisions made during the refinement process.    * Added a section explaining the evaluation metrics to be used to assess the ARIMA-X model's performance.   **Challenges:** Integrating the exogenous variables into the ARIMA model while maintaining the model's stability and interpretability proved to be more intricate than anticipated. Balancing the impact of these variables with the inherent patterns in the time series required careful parameter tuning. | | |