INTERNSHIP: STUDENT DAILY REPORT

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| 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 |

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| Date | Day | Hours Spent |
| 26/07/2023 | Day 9 | 3 hours and 15 minutes |
| Description:  **Self-learning Duration : 3 hours**  **Activity Report Duration : 15 minutes**  **Activities:**   1. **Exploring Exponential Smoothing Methods (2 hours):**    * Delved into exponential smoothing methods for time series forecasting.    * Explored the Single Exponential Smoothing (SES) method and understood how it assigns different weights to past observations.    * Learned about the Double Exponential Smoothing (Holt's method) and Triple Exponential Smoothing (Holt-Winters' method) that consider trend and seasonality. 2. **Hands-on with Python's statsmodels for Exponential Smoothing (1 hour):**    * Implemented Single Exponential Smoothing using the **statsmodels** library in Python.    * Loaded a time series dataset, preprocessed it, and split it into training and testing sets.    * Configured the SES model, trained it on the training data, and obtained predictions for the test data. 3. **Updating Documentation (15 minutes):**    * Added information about exponential smoothing methods to the documentation.    * Included code snippets and explanations related to implementing SES using Python's **statsmodels**.    * Made sure that the documentation is coherent and follows a logical flow.   **Challenges:** Understanding the mathematical foundation of exponential smoothing and how it accounts for various components of time series data (such as level, trend, and seasonality) required focused learning. Implementing SES programmatically while comprehending the underlying calculations was a bit challenging. | | |