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 |
| 11/08/2023 | Day 25 | 2.3 hours and 45 minutes |
| Description:  **Self-learning Duration : 2.3 hours**  **Activity Report Duration : 45 minutes**  **Activities:**   1. **Exploring Advanced Time Series Techniques (1 hour and 30 minutes):**    * Dived into advanced time series forecasting techniques beyond the previously studied models.    * Researched and learned about ensemble methods like ARIMA-X and advanced machine learning models tailored for time series data.    * Explored the potential advantages and challenges associated with these techniques. 2. **Implementing ARIMA-X (1 hour):**    * Decided to implement ARIMA with exogenous variables (ARIMA-X) as an extension to the ARIMA model.    * Identified relevant external factors that could impact the sales data, such as economic indicators or marketing campaigns.    * Began the process of incorporating these exogenous variables into the ARIMA framework. 3. **Updating Project Documentation (45 minutes):**    * Revised the project documentation to include the new research on advanced time series techniques.    * Detailed the concepts of ARIMA-X and its potential benefits over traditional ARIMA.    * Added references to the sources and articles that were studied to expand the knowledge base.   **Challenges:** The implementation of ARIMA-X posed challenges related to selecting appropriate exogenous variables and integrating them effectively into the existing ARIMA model. Ensuring that these variables genuinely improved the forecasting accuracy required careful consideration and experimentation. | | |