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 |
| 8/08/2023 | Day 22 | 3 hours and 45 minutes |
| Description:  **Self-learning Duration : 3 hours**  **Activity Report Duration : 45 minutes**  **Activities:**   1. **Fine-tuning LSTM Model (1 hour):**    * Continued working on the LSTM model for time series forecasting.    * Adjusted hyperparameters such as the number of hidden units and layers to optimize the model's performance.    * Explored different activation functions to enhance the network's ability to capture temporal patterns. 2. **Deeper Dive into Hyperparameter Tuning (1 hour):**    * Delved deeper into the importance of hyperparameter tuning for machine learning models.    * Researched techniques like grid search and random search to efficiently explore the hyperparameter space.    * Implemented grid search for some of the key hyperparameters in the LSTM model. 3. **Interpreting LSTM Results (1 hour):**    * Analyzed the results of the tuned LSTM model on the time series data.    * Plotted predicted vs. actual values to visualize the model's performance.    * Identified areas where the model excelled and areas where it struggled to make accurate predictions. 4. **Documentation and Note-taking (45 minutes):**    * Documented the changes made to the LSTM architecture and hyperparameters.    * Took notes on the observations and insights gained from the experimentation process.    * Summarized the key findings and outcomes of the day's activities.   **Challenges:** Fine-tuning the LSTM model required a good understanding of how each hyperparameter affects the model's behavior. Balancing computational resources with the desire for a comprehensive search of hyperparameters was also a challenge. Additionally, interpreting the model's performance and understanding its limitations posed challenges in guiding further improvements. | | |