**Codeless Time Series Analysis with KNIME Analytics Platform**

**Module Outline**

The objective of the program is to expose participants to Time Series Analysis and implement the DL method to solve time series data using KNIME Analytics Platform in codeless style.

| **Day** | **Topics** | **Learning Outcomes** | **Remarks** |
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| **D1** | Part 1  Deep Learning with KNIME Analytics Platform | 1. Participants should be able to install KNIME Analytics Platform, Anaconda and the GPU dependencies for DL 2. Participants should be able to setup and configure Deep Learning Environment in KNIME Analytics Platform |  |
|  | Part 2  Introduction to KNIME Analytics Platform for Deep Learning | 1. Participants should be able to understand the interface of KNIME Analytics Platform. 2. Participants should be able to install and familiar with the Deep Learning Nodes |  |
| **D2** | Part 1  Introduction to Time Series Analysis | 1. Participants should be able to explain what is Time series analysis and its applications 2. Participants should be able to distinguish between Time Series data and Cross-sectional Data 3. Participants should be able to understand and elaborate the type of time series data & its implementation 4. Participants should be able to list out the methods for time series data and understand the fundamental and pick up the differences of these available methods to solve Time Series data |  |
|  | Part 2  The Fundamental of Deep Learning | 1. Participants should be able to understand Artificial Neural Network and its basic components and how it works 2. Participants should be able to understand the concept of model parameters and hyperparameters in DL 3. Participants should be able to outline & implement the learning strategy in DL 4. Participants should be able to evaluate the performance of the model by observing the learning curve |  |
|  | Part 3  Deep Learning Model and its Working Mechanism | 1. Participants should be able to list out the DL model 2. Participants should be able to understand & elaborate the architecture of DL model and its working mechanism |  |
| **D3** | Day 3 - Exploratory Data Analysis (EDA) | 1. Understand data behaviour by implementing EDA 2. Techniques to detect anomalies in time series data 3. Techniques to normalise and standardise time series data 4. Understand importance of Upsampling and downsampling data |  |
| **D4** | Day 4 - Case Study (Demo and Example) | 1. Participants should be able to understand type of time series data & how to use KNIME Analytics Platform to solve all types of Time Series data 2. Participants should be able to practice to solve Time Series data using KNIME Analytics Platform 3. Participants should be able to use the nodes to carry out EDA, Data Preprocessing, Model Training & Model Evaluation |  |
| **D5** | Day 5 - Assessment | 1. Participants should be applied all the topics covered from D1 to D4 to solve Time Series Problem |  |