

AI for Time Series Analysis and Forecasting

Course Summary

Description

This course addresses the need for smart software for time series analysis and forecasting.

Topics

- AI overview
- Time series processing and forecasting elements
- Forecasting with Tensorflow and Kereas

Audience

This course is intended for software architects and engineers

Prerequisite

The prerequisites for this course are:

- Familiarity with any programming language
- Be able to navigate Linux command line
- Basic knowledge of command line Linux editors (VI / nano)

Duration

Three Days

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Course Outline

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- I. *AI overview*
 - A. A brief history of AI
 - B. Types of AI systems
 - C. Training machine learning models
 - D. Applying models for prediction
 - E. Demos and Labs

- II. *Time series processing and forecasting elements*
 - A. Traditional Time Series forecasting with ARIMA models
 - B. Defining Autocorrelation
 - C. Understanding the Dickey-Fuller Test

- III. *Forecasting with TensorFlow and Keras*
 - A. Google democratization of AI with TensorFlow
 - B. Types of neural network (Perceptron, CNN, LSTM) and their use
 - C. Forecasting with TensorFlow
 - D. Using RNN and LSTM in time series prediction.
 - E. Validation and metrics of Time Series Prediction models
 - F. Use cases and labs