Course Code: W7106GW

Course Title: Specialized Models: Time Series and Survival Analysis

Description:

This course introduces you to additional topics in Machine Learning that complement essential tasks, including forecasting and analyzing censored data. You will learn how to find analyze data with a time component and censored data that needs outcome inference. You will learn a few techniques for Time Series Analysis and Survival Analysis. The hands-on section of this course focuses on using best practices and verifying assumptions derived from Statistical Learning.

Objectives:

By the end of this course you should be able to:- Identify common modeling challenges with time series data.

- Explain how to decompose Time Series data: trend, seasonality, and residuals.

- Explain how autoregressive, moving average, and ARIMA models work.

- Understand how to select and implement various Time Series models.

- Describe hazard and survival modeling approaches.

- Identify types of problems suitable for survival analysis.

Prerequisites:

To make the most out of this course, you should have familiarity with programming on a Python development environment, as well as fundamental understanding of Data Cleaning, Exploratory Data Analysis, Calculus, Linear Algebra, Supervised Machine Learning, Unsupervised Machine Learning, Probability, and Statistics.

Duration:

11.2 Hrs

Topics:

1. Introduction to Time Series Analysis

2. Stationarity and Time Series Smoothing

3. ARMA and ARIMA Models

4. Deep Learning and Survival Analysis Forecasts

Audience:

This course targets aspiring data scientists interested in acquiring hands-on experience with Time Series Analysis and Survival Analysis.