Using Python and R with SAS Viya for Advanced Analytics

Course Description

In this course, you learn to use R and Python to take control of the SAS Viya Cloud Analytic Services (CAS) distributed computing environment to develop machine learning models. You learn to upload data into the in-memory distributed environment, analyze data using Pandas like functionality, build machine learning models, and assess those models in CAS using familiar open-source functionality via the SWAT (SAS Scripting Wrapper for Analytics Transfer) package.

Learn how to

- Use the SWAT package to control CAS via R and Python.
- Manage, alter, and prepare data using Python and R syntax.
- Create and assess machine learning models for classification tasks, including logistic regressions, decision trees, forests, support vector machines, and neural networks.
- Create and assess deep learning models for forecasting, sentiment prediction, and image classification.
- Use open-source syntax to automate the submission of CAS actions using functions and loops.

Course Prerequisites

Students should have experience working with data, creating predictive models, and writing open-source programs. Some SAS experience is recommended.

Who Should Attend?

Data scientists with Python or R experience who want to take advantage of SAS Viya distributed analytics

Course Outline

SAS Viya and Open-Source Integration

- SAS Viya and Cloud Analytic Services (CAS).
- Open-source development interfaces.
- Scripting Wrapper for Analytics Transfer (SWAT).
- Fundamentals of the R and Python APIs.

Machine Learning

- Predictive modeling.
- Predictive models.
- Model assessment.
- Creating, scoring, and assessing predictive models with the R/Python API.

Text Analytics

- Introduction to text analytics.
- Natural language processing.

Deep Learning

- Traditional neural networks versus deep learning.
- Recurrent neural networks.

Time Series

- Time series modeling and forecasting.
- Exponential smoothing models.
- ARIMAX models.
- Creating forecasting models using the R/Python API.

Image Classification

- Deep learning image classification.

Factorization Machines

- Modeling interactions in factorization machines.

Course Duration

2 days

SAS Products Covered

SAS Viya;SAS Machine Learning