Python for SQL Server Specialists

Summary: Duration – 2 days-half a day, Level - 200 (MS Scale), Delivery method - Virtual Instructor-led class or In-class

Although R is the most popular environment and language for statistical analyses, data mining, and machine learning, Python as a more general language might be even more popular. Lately, Python is more widely used for data science as well. SQL Server adds support for running Python code inside the Database Engine. This course is both, an independent seminar, and a complement to the EmbRace R seminar, meaning that the two courses overlap only partially; in each course, some different algorithms and techniques are introduced.

Python is more organized language than R. In last years, many data analytics libraries for Python evolved, and thus Python is catching up with R even in the data science area. Microsoft added support for Python code in SQL Server in version 2017. Now you can use either R or Python inside the Database Engine for advanced tasks like predictive analytics. Therefore, you can use the language that suits you better. Statisticians and mathematicians might prefer R, while developers tend to be more Python oriented. Attendees of this seminar learn to program with Python from the scratch. Basic Python code is introduced using the Python engine installed with SQL Server and Visual Studio. The seminar shows some more advanced data manipulations, matrix calculations and statistical analysis together with graphing options. The mathematics behind is briefly explained as well. Then the seminar switches to more advanced data mining and machine learning analyses.

AUDIENCE:

The target audience is everybody that wants to start developing with Python and use the language for machine learning. However, the course is focused on data science, not general development. Database developers that deal with SQL Server and code in T-SQL and want to move more to advanced analytics can get the most of this course.

AFTER THE TRAINING ATTENDEES WILL BE ABLE TO:

- Start analyzing their data with statistical and machine learning methods immediately
- Prepare the data accordingly for the target analysis and deploy the solution in SQL Server
- Besides practical skills, the delegates also learn the basics of the mathematics behind the algorithms

There are no guided labs. However, the attendees get all of the code so they can test it.

TOPICS:

Module 1: Introduction to Python
Module 2: Data overview and manipulation
Module 3: Basic and advanced visualizations
Module 4: Data mining and machine learning methods
Module 5: Scalable Python in SQL Server