

# Data AI: Developing Production Ready AI using Team Data Science Process

## WorkshopPLUS

**Duration:** 4 Days | **Focus Area:** Business/IT Alignment | **Level:** 300

This course will provide you the knowledge to develop production ready artificial intelligence (AI) solutions using team data science process (TDSP). Through the course you will learn how to use the agile methodology to keep track of data science tasks and how to apply DevOps practices within your data science projects to ensure quality and production first mindset while experimenting on an AI solution.

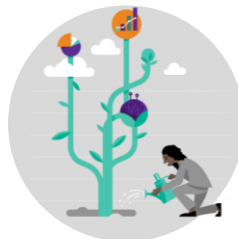
The course adopts python to develop a simple supervised learning model and provides hands on labs to gain experience on how to do training and operationalization using vanilla python packages or scaling out through Azure Machine Learning services. This workshop is targeted to Data Engineers, Data Scientists, Analysts and Solution Architects.

### OUTCOMES



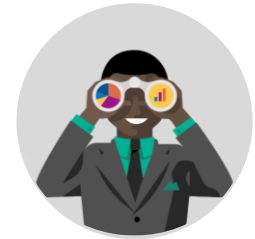
#### Skills

Gain deeper knowledge on developing AI solutions using Team Data Science Process.



#### Best Practices

Learn the Microsoft verified DevOps practices to implement AI solutions with TDSP.



#### Way Forward

Take what you've learned in the classroom and apply it to your environment at your organization.

### PREREQUISITES

Participants that have existing experience in developing AI solutions will receive the most value from this course.



#### Recommended Qualifications

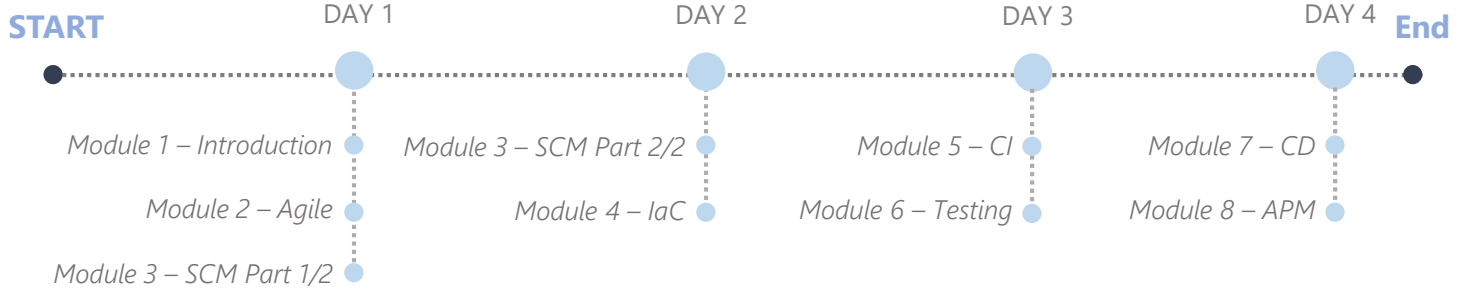
- Experience in developing basic AI solutions
- Knowledge of any programming language and some basic familiarity with the Python language



#### Hardware Requirements

- A computer with modern browser installed
- 4 GB RAM
- 64 GB HDD
- Internet access with at least 1 Mbps bandwidth per student

## Duration: 4 days



◆ SYLLABUS ◆

### Module 1: Introduction to Agile, DevOps and Team Data Science Process

- Introduction to the Agile methodology and how to track data science projects using Scrum.
- Introduction to DevOps practices
- Introduction to TDSP and the main phases within a data science project.

### Module 2: Agile management

- Introduction to Azure DevOps.
- Hands on labs creating an Azure DevOps Agile project.
- Tracking work in an Agile project.
- Tracking TDSP work with Azure DevOps boards.
- Hands on labs working on Azure DevOps boards.

### Module 3: Software Configuration Management for Data Scientists

- Introduction to the SCM DevOps practice
- Using Git for source version control

- Tackle version control challenges of a data science project
- Hands on lab practicing version control using Visual Studio Code, Python and Azure DevOps.

### Module 4: Infrastructure as Code for Data Scientists

- Introduction to IaC DevOps practice.
- Tools for IaC.
- Data science infrastructure resources that need to be scripted.
- Hands on labs scripting the creation of Azure Machine Learning Services.

### Module 5: Continuous Integration for Data Scientists

- Introduction to CI DevOps practice
- Using Azure DevOps to create CI pipelines.
- CI options in a data science project.
- Hands on labs creating CI for code quality validation and model training.

### Module 6: Testing fundamentals

- Introduction to testing types.
- Tracking tests and bugs in Azure DevOps.
- Testing in the context of a data science model.
- Hands on labs implementing tests using pytest framework.
- Automating tests using Azure DevOps.
- Hands on labs adding the tests in our CI pipeline

### Module 7: Continuous Delivery for data scientists

- Introduction to the CD DevOps practice.
- Continuous Delivery and Deployment in a data science project.
- Hands on labs implementing a CD pipeline in Azure DevOps.

### Module 8: Application Performance Monitoring for data scientists

- Introduction to the APM DevOps practice.

**NEXT STEPS:** If you are interested in developing AI solutions using TDSP for your organization, contact your Henson Group representative.