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Machine Learning Applications for Monitoring and Troubleshooting Chemical and Process Industries

Typically, machine learning (ML) and artificial intelligence (AI) applications tend to focus on examples that are not relevant to process engineers.

In this talk, industrial data science fundamentals will be explained and linked with commonly-known examples in process engineering, followed by two common industrial applications using state-of-art ML techniques.

First, will discuss what open-source packages can be used to connect to industrial historians (Aspentech IP.21 and OSIsoft PI). Then we will cover AutoML and ExplainableAI Python packages that are commonly used in industry. Among them, We will show how Predictor Explainer (JMP+Python) automates the screening of process variables both for continuous and batch process data.

Keywords

continuous data, batch data, industry, open-source

Classification

Both methodology and application

Primary authors: Dr VALLERIO, Mattia (Solvay SA); Dr PEREZ-GALVAN, Carlos (Solvay SA); NAVARRO, Francisco (Imperial College)

Presenters: Dr VALLERIO, Mattia (Solvay SA); NAVARRO, Francisco (Imperial College)

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