

## **LaPEA: Language for Preprocessing of Edge Applications in Smart Factory**

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**Abstract :** In order to improve the productivity of a factory, it is often the case to create an inference model by collecting and analyzing operational data off-line and then to develop an edge application (EAP) that evaluates the quality of the products or diagnoses machine faults in real-time. To accelerate this development cycle, an edge application framework for the smart factory is proposed, which enables to create and modify EAPs based on prepared inference models. In the framework, the preprocessing component is the key part to make it work. This paper proposes a language for preprocessing of edge applications, called LaPEA, which can flexibly process several sensor data from machines into explanatory variables for an inference model, and proves that it meets the requirements for the preprocessing.

**Keywords :** edge application framework, edgex, preprocessing language, smart factory

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