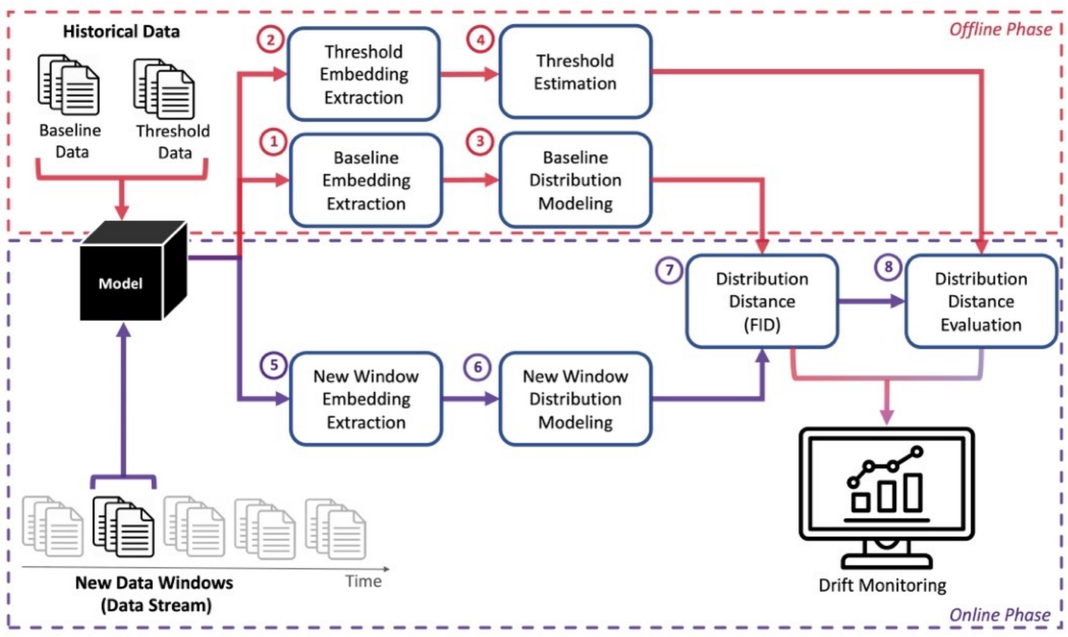
Drift Lens

A Tool for Real-Time Unsupervised Concept Drift Detection from Deep Learning Representations on Unstructured Data

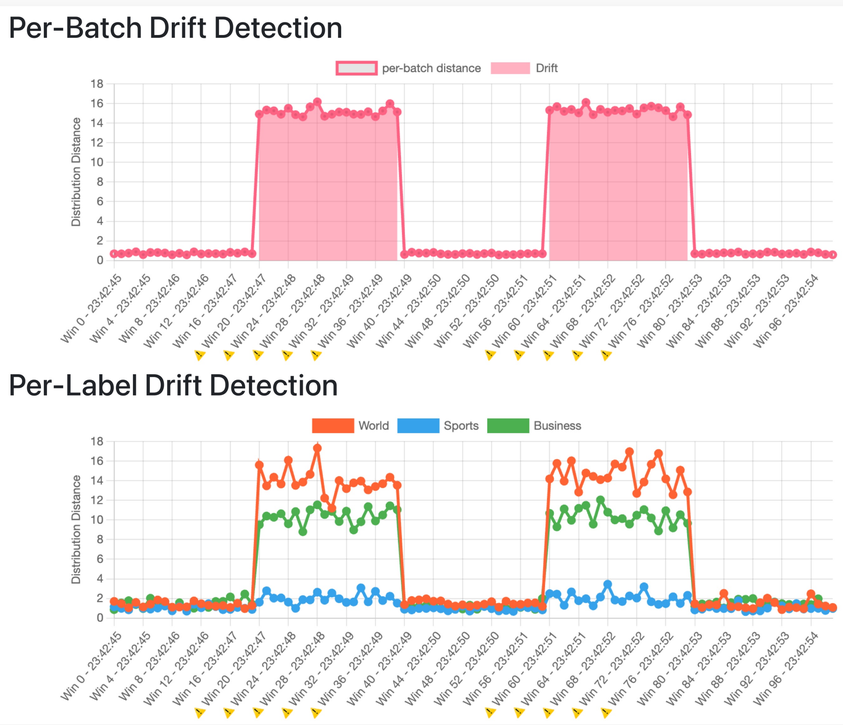
DriftLens: *A Concept Drift Detection Tool*

Concept Drift refers to changes in data distribution over time that can lead to performance degradation of deep learning systems. Production models need to be continuously monitored for drift.

Methodology



Drift Monitoring

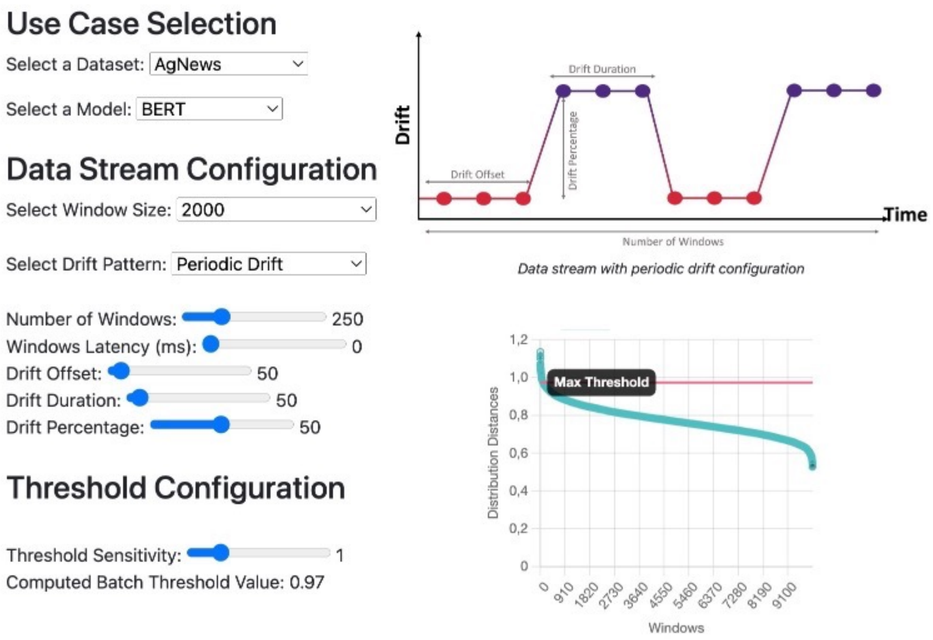


DriftLens is a real-time unsupervised drift detection technique based on the distribution distances between the embedding representations of deep learning models on unstructured data. The distributions are modeled as multivariate normal distributions, and their distances are computed using the Fréchet Inception Distance.

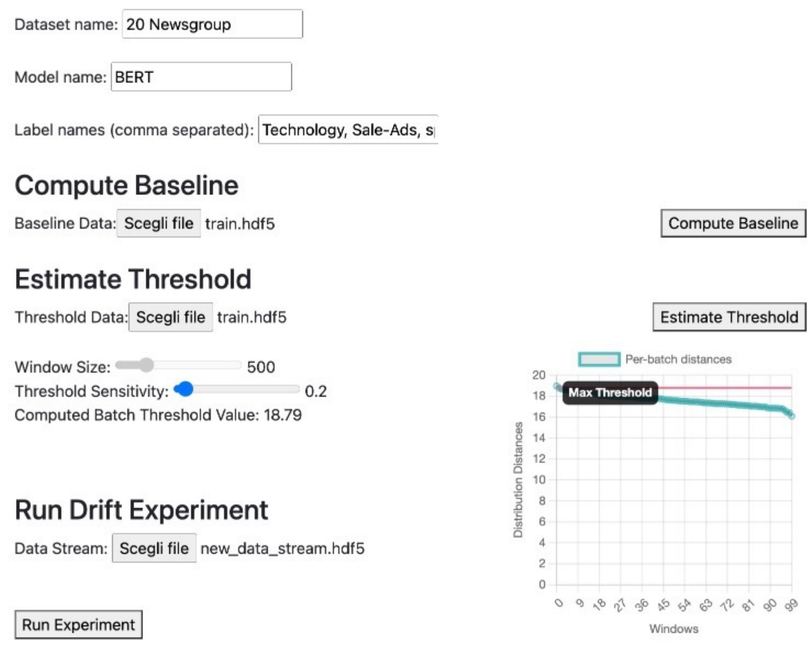
The **drift monitor** shows the distribution distances for the entire window (*per-batch*) and separately for each label (*per-label*). When drift is detected, it displays a warning in the x-tick and fills the area under the curve.

Settings

1 Drift Detection on pre-uploaded use cases



2 Drift Detection on new data



The tool provides **two interfaces** for performing drift detection on **1)** pre-uploaded use cases containing simulated drift, and **2)** new data (i.e., embeddings) uploaded by the user.

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