Dynamical System Approaches to Online Fault Detection

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The field of online change point detection, also known as concept drift detection, has historically been dominated by statistical based approaches. While these approaches make sense if we assume that changes affect how our data is distributed, often this assumption is hard to verify. More recently there has been a push for approaches rooted in dynamical system analysis, approaches that seek to characterize the underlying system rather than simply the observation in order to detect a change.
In this talk Braden will provide an overview of the dynamical system approaches to concept drift detection, detailing a number of methods in this scope. Braden will conclude by looking at some applications of these methods and how they may be of interest in the context of online fault detection.