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Transient Classifiers for Fink: Benchmarks for LSST

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I will present the infrastructure tests and classification methods developed within the Fink broker in preparation for LSST. This work aims to provide detailed information regarding the underlying assumptions, and methods, behind each classifier. Using simulated data from the Extended LSST Astronomical Time-series Classification Challenge (ELAsTiCC), we showcase the performance of binary and multi-class ML classifiers available in Fink. These include tree-based classifiers coupled with tailored feature extraction strategies, as well as deep learning algorithms. We introduce the CBPF Alert Transient Search (CATS), a deep learning architecture specifically designed for this task. ELAsTiCC was an important milestone in preparing Fink infrastructure to deal with LSST-like data. Our results demonstrate that Fink classifiers are well prepared for the arrival of the new stream; this experience also highlights that transitioning from current infrastructures to Rubin will require significant adaptation of currently available tools.

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