MACHINE LEARNING FOR ASTROPHYSICS
CATANIA, 30 MAY - 1 JUNE, 2022

Contribution ID: **134**   Type: **Poster Presentation**

Scope: the Zwicky Transient Facility Variable Source Classification Project

Tuesday, 31 May 2022 14:43 (3 minutes)

The Zwicky Transient Facility (ZTF) is an optical survey telescope that observes the northern sky every night. Lightcurves in g,r, and i have been obtained of than a billion stars down to magnitude 20.5. Identification and classification of all variables in this huge dataset is required for multiple science cases. ZTF's volume of data, multicolour lightcurves, and (highly) irregular cadence contains a lot of information. These attributes also make classification a challenging problem, but also an excellent testing ground to learn how to deal with these challenges.

I will present our efforts to classify ZTF variable stars, how we dealt with these challenges and the design choices we made in the process. This includes the technical challenge of processing billions of lightcurves, the design of a comprehensive classification scheme and use of many one-vs-all classifiers, and our active learning approach to continuously correct and improve the classifiers.

Main Topic

Classification and regression

Secondary Topic

Active Learning

Participation mode

In person

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Session Classification: Poster Session Day 2