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

Contribution ID: **92**   Type: **Oral Presentation**

QSOs selection in highly unbalanced photometric datasets: The "Michelangelo" reverse-selection method.

I will present a novel selection method aimed at efficiently identifying high-redshift QSOs in highly unbalanced photometric datasets, characterized by a very low number of QSOs with respect to other sources. The method relies on a gradient boosting algorithm, although it may be be used with any other machine learning method providing classification probabilities. I applied the selection method on a sample of photometric data obtained by PanSTARRS1 (DR2), DES (Gold Y3), Gaia (EDR3) and WISE, and I will discuss its performances, as well as a comparison to its basic, direct-selection method counterpart, showing that the former privileges the selection completeness, while the latter privileges the success rate.

Main Topic

Supervised/Unsupervised/Semi-supervised Learning

Secondary Topic

Classification and regression

Participation mode

In person

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Session Classification: Supervised Learning