

# something better needed A Machine Learning Model to Separate Stars and Galaxies in PanSTARRS1 Data

CONCERNED ZTF SCIENTISTS<sup>1</sup>

<sup>1</sup>*Zwicky Transient Facility*

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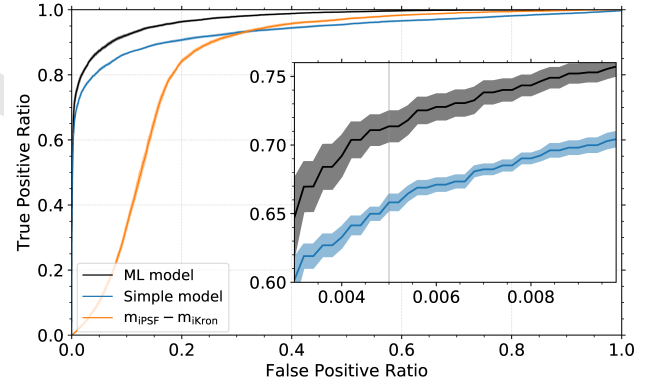
Submitted to PASP

## ABSTRACT

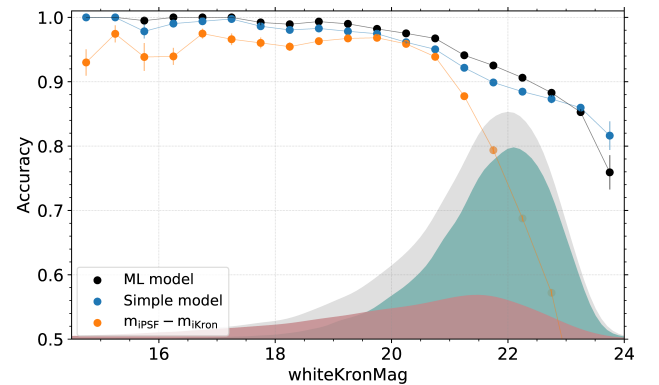
We did a decent job of separating stars and galaxies.

*Keywords:* catalogs — galaxies: statistics — methods: data analysis — methods: statistical — stars: statistics — surveys

1. INTRODUCTION
2. TRAINING THE MODEL
3. MODEL CONSTRUCTION
  - 3.1. *Simple Model*
  - 3.2. *Random Forest Model*
4. RESULTS
5. DISCUSSION
6. CONCLUSIONS



**Figure 1.** ROC curves of the ML model, the simple model, and  $m_{iKron} - m_{iPSF}$  for the HST PS1 crossmatched catalog.



**Figure 2.** Accuracy curves of the ML model, the simple model, and  $m_{iKron} - m_{iPSF}$  for the HST PS1 crossmatched catalog.

- Brian Bue (possibly also Umaa, check emails)

- PS1 casjobs (Bernie in particular)

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*Facility:* PS1

*Software:* catpipe(?)

## APPENDIX