# LIME
# (Local Interpretable Model-Agnostic Explanations)

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# What is LIME?

**L**ocal **I**nterpretable **M**odel-Agnostic **E**xplanations

* Framework to determine model interpretability which can be applied to any model

* another metric for your model beside accuracy

* post-processing step after building your model

# When might it be useful?

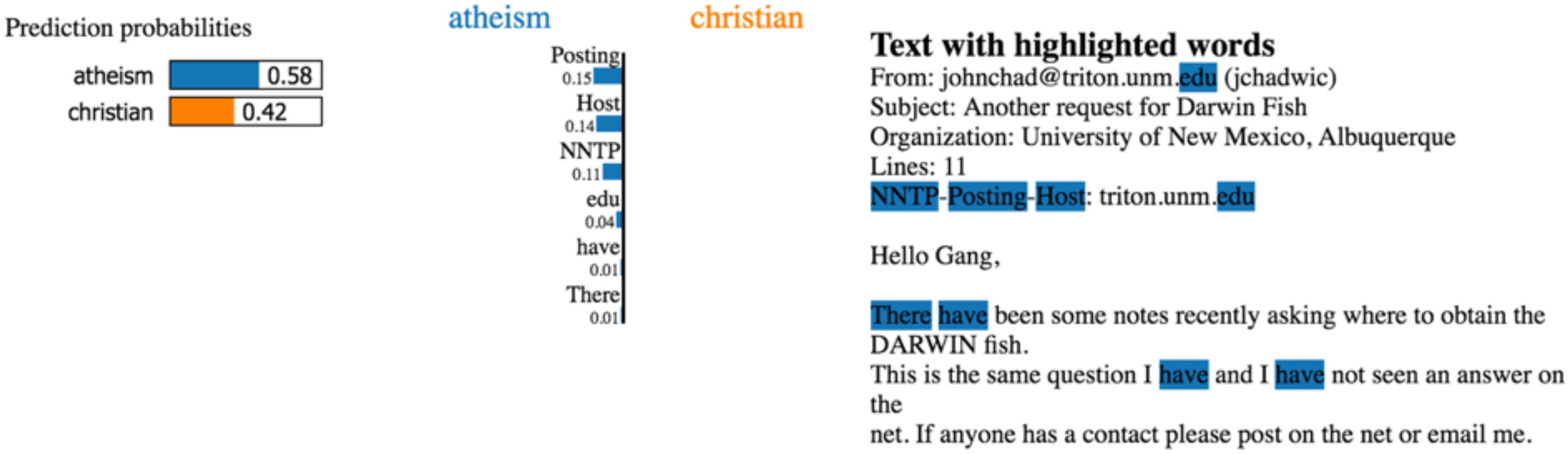
* ethics of a business use cases (e.g. health)

* assessing business risk when model is in production

# Example of an application

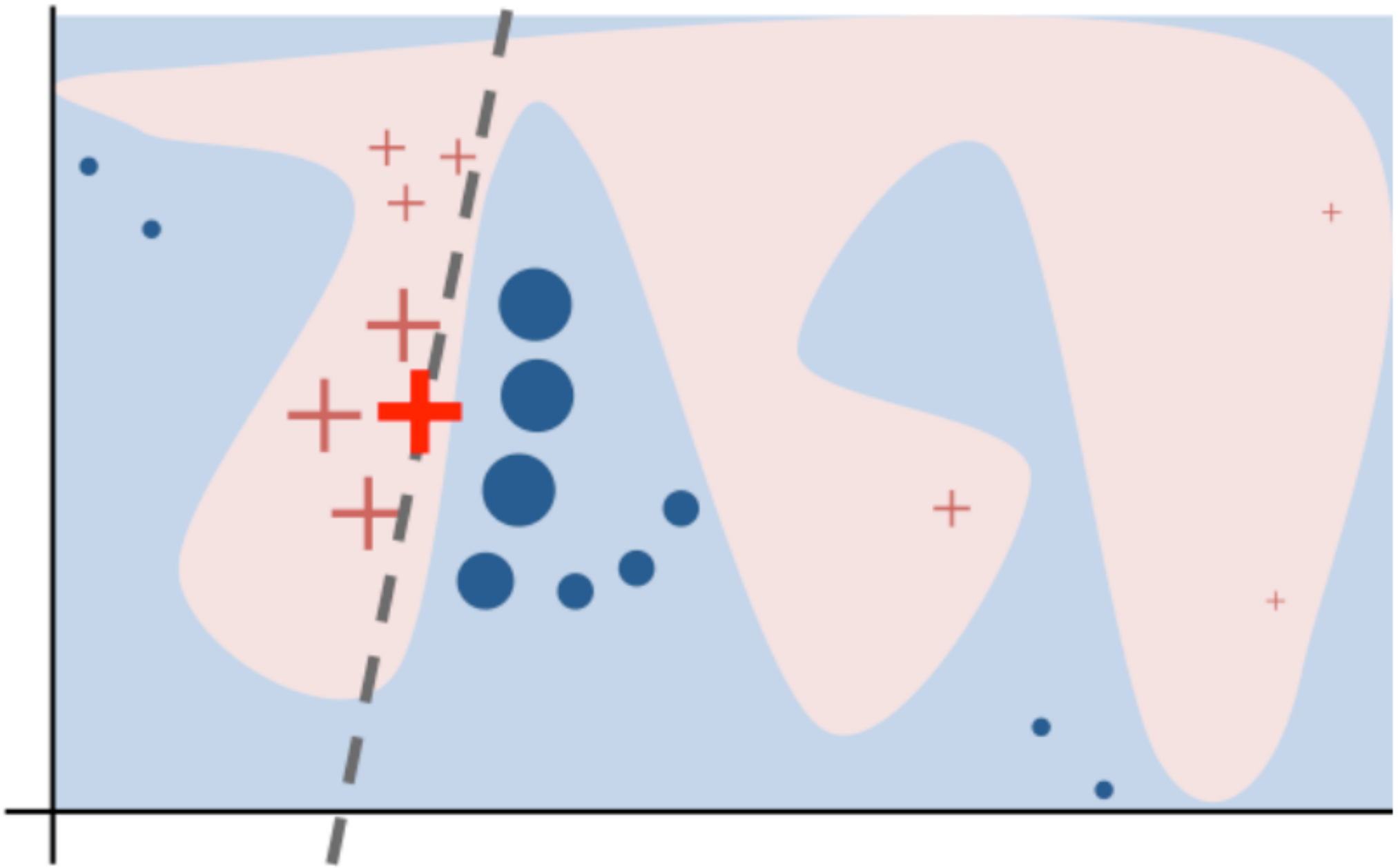
## text classification

Training a random forest with 500 trees, we get a test set accuracy of 92.4%, which is surprisingly high.




Explanation is a very sparse linear model (with only 6 features).

# How does it work?



# Example of an application

(a) Original Image (b) Explaining *Electric guitar* (c) Explaining *Acoustic guitar* (d) Explaining *Labrador*

**Figure 4: Explaining an image classification prediction made by Google's Inception network, highlighting positive pixels. The top 3 classes predicted are "Electric Guitar"** ($p = 0.32$)**, "Acoustic guitar"** ($p = 0.24$) **and "Labrador"** ($p = 0.21$)