

# Is Anybody There?

Predicting Dwelling Occupancy on Census Night  
Using Admin Data and Machine Learning

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**Australian Bureau of Statistics**  
Informing Australia's important decisions





In 2016, Australia  
had too many  
imaginary friends.

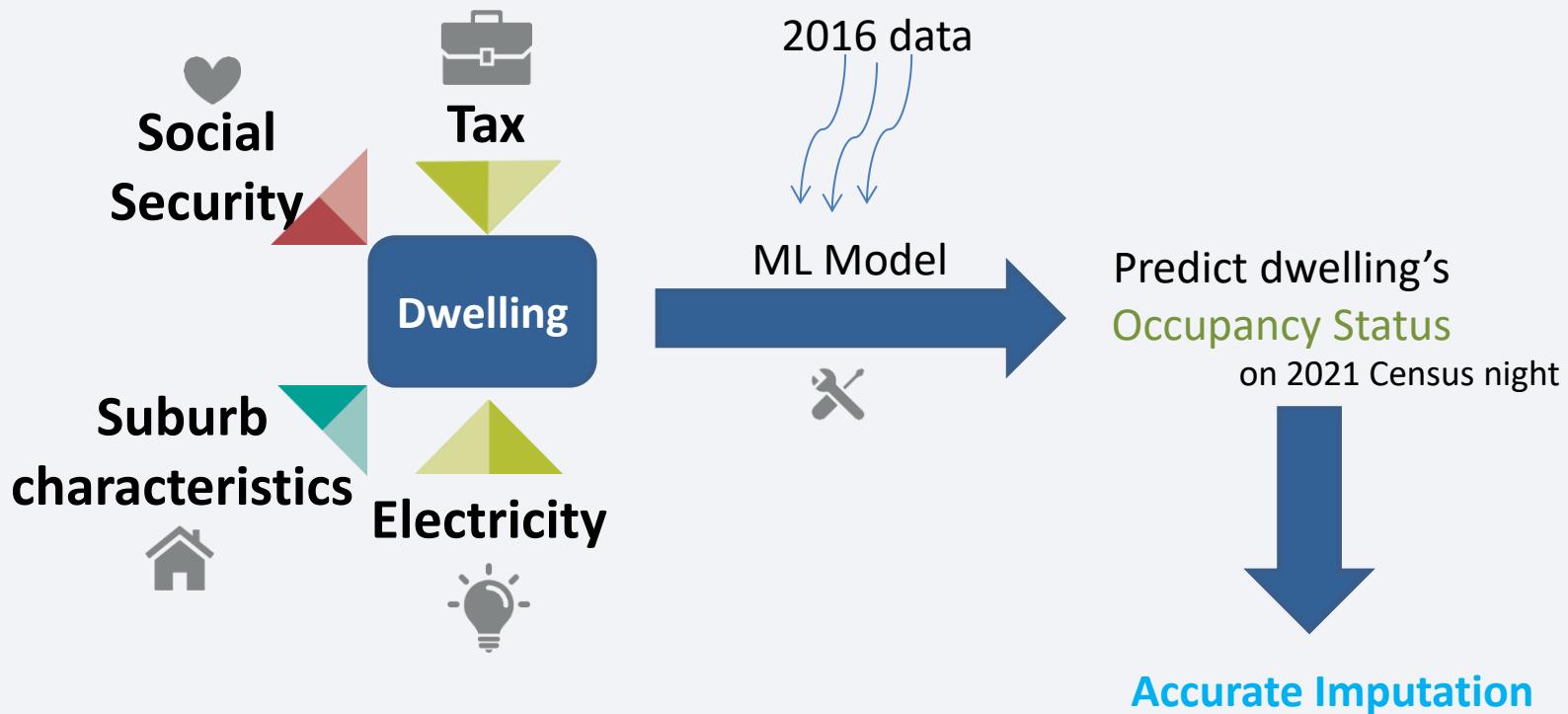


# A Story



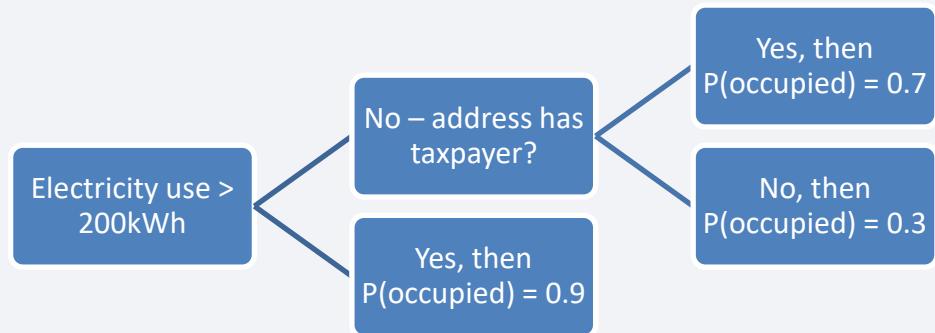
# Public Trust and Privacy

- ▶ Building public trust and ensuring privacy are fundamental to this work.
- ▶ Before implementation, this project will be evaluated in the 2021 Census Privacy Impact Assessment.
- ▶ We will communicate updates through [abs.gov.au](http://abs.gov.au)



# The Machine Learning Model – XGBoost

- ▶ ~~Decision tree method~~

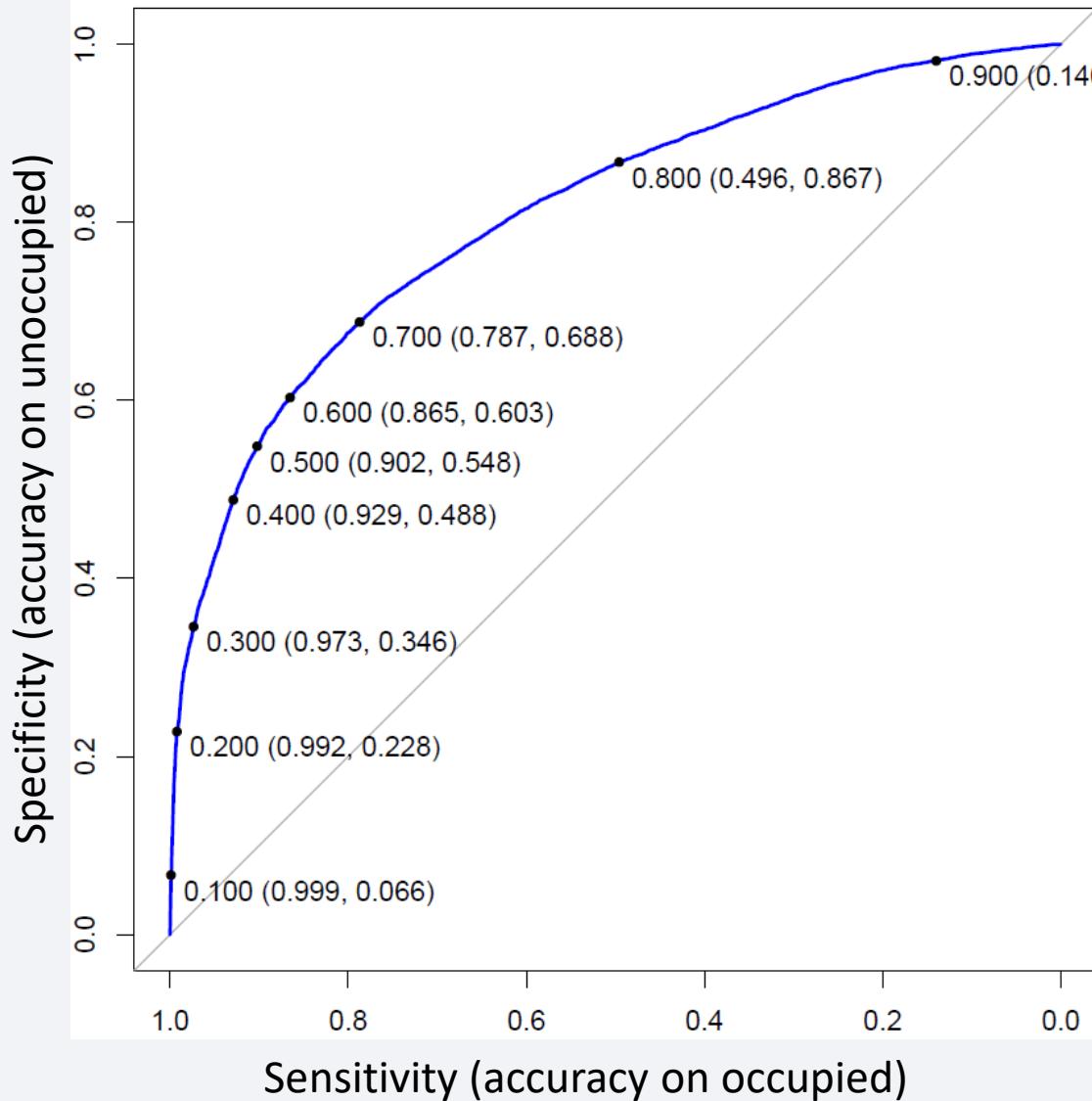


- ▶ ~~Boosted decision tree method~~

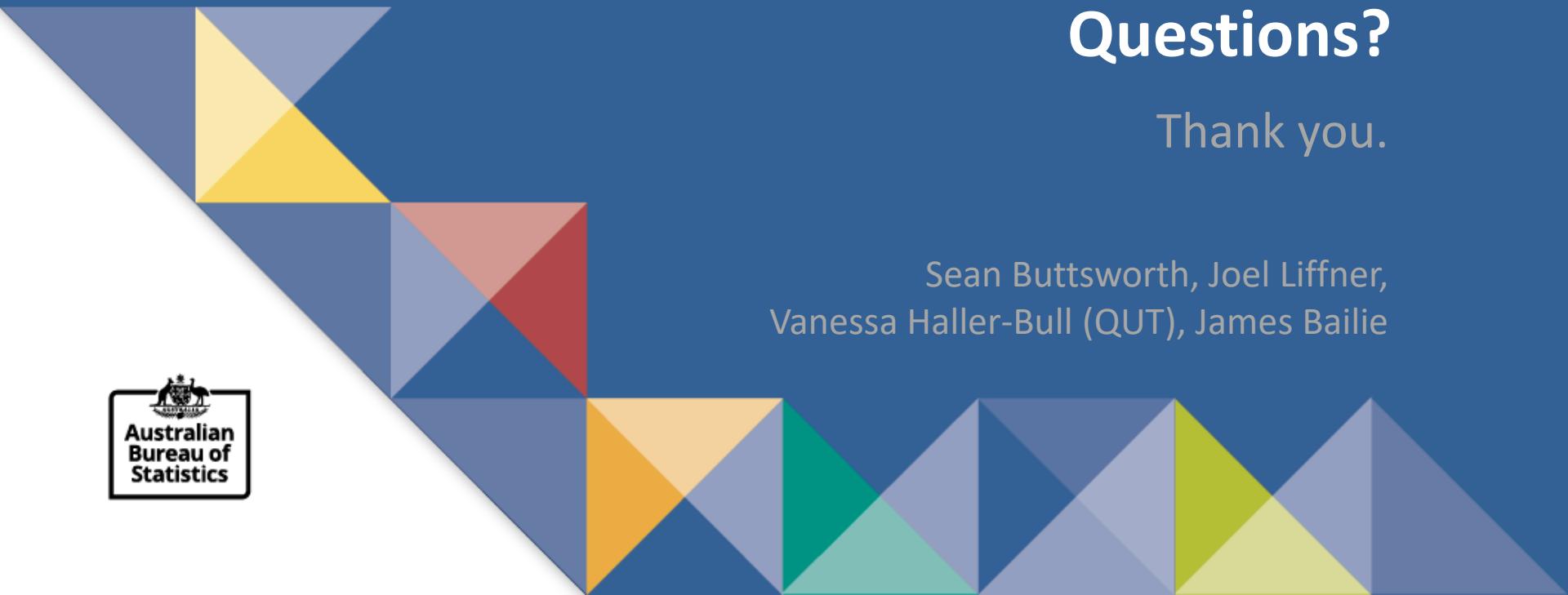
- ▶ Gradient boosted decision tree method



# Some initial results (subject to change)



Tasmanian,  
non-responding  
dwellings



# Questions?

Thank you.

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