A multicentre observational study of the epidemiology and initial management pathway of thyroid nodules

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Abstract

### Introduction

This is the introduction.

### Methods

This is the methods.

### Results

This is the results.

### Conclusion

This is the conclusion

Source: [Article Notebook](https://ns-rse.github.io/sheffield-thyroid/index.qmd.html)

## 1 Introduction

Some paragraphs on the background of the work can go here.

## 2 Methods

Data was cleaned and analysed using the R Statistical Software R Core Team (2023) and the Tidyverse (Wickham et al. (2019)), Tidymodels (Kuhn and Wickham (2020)) collection of packages.

### 2.1 Modelling

Description of the different models and how they are assessed can go here.

## 3 Results

### 3.1 Data Description

Details of data completeness and other descriptive aspects go here.

### 3.2 Modelling

Results of the various modelling go here. Each section will show the results along with…

* LIME/Shaply analysis for explanability of models

#### 3.2.1 LASSO / Elastic Net

#### 3.2.2 Random Forest

#### 3.2.3 Gradient Boosting

#### 3.2.4 SVM

#### 3.2.5 Comparision

Comparing the sensitivity of the different models goes here.

* Table of sensitivit/specificit/other metrics.
* ROC curves

## 4 Conclusion

The take-away message is….these things are hard!

Kuhn, Max, and Hadley Wickham. 2020. *Tidymodels: A Collection of Packages for Modeling and Machine Learning Using Tidyverse Principles.* <https://www.tidymodels.org>.

R Core Team. 2023. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. <https://www.R-project.org/>.

Wickham, Hadley, Mara Averick, Jennifer Bryan, Winston Chang, Lucy D’Agostino McGowan, Romain François, Garrett Grolemund, et al. 2019. “Welcome to the tidyverse.” *Journal of Open Source Software* 4 (43): 1686. <https://doi.org/10.21105/joss.01686>.