Interpretable Machine Learning of PET Imaging for Individualized Predictions of Seizure Outcomes after Temporal Lobe Epilepsy Surgery

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Introduction

The Data

The Model

The Explanation

Conclusion

Introduction

Background

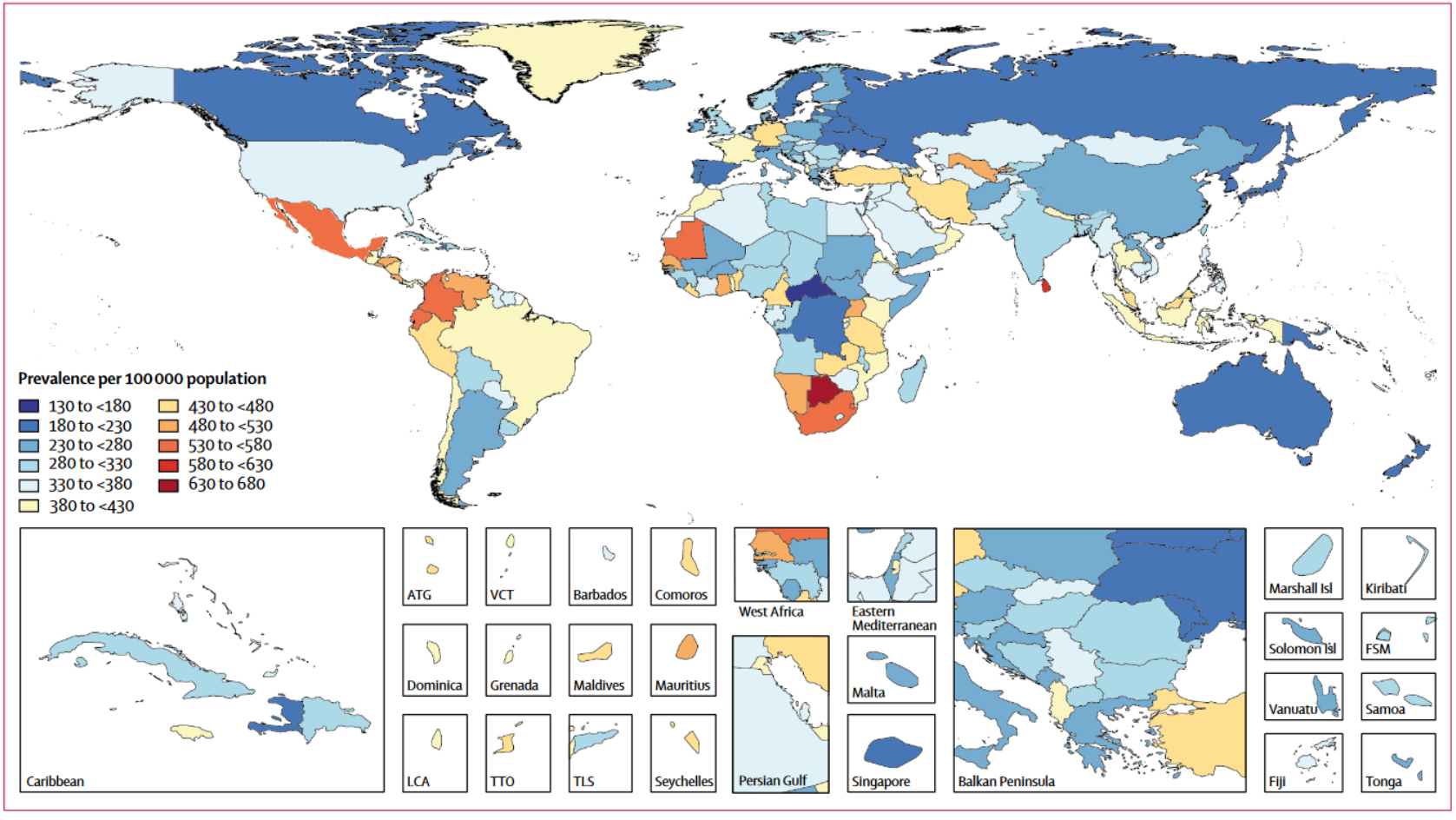
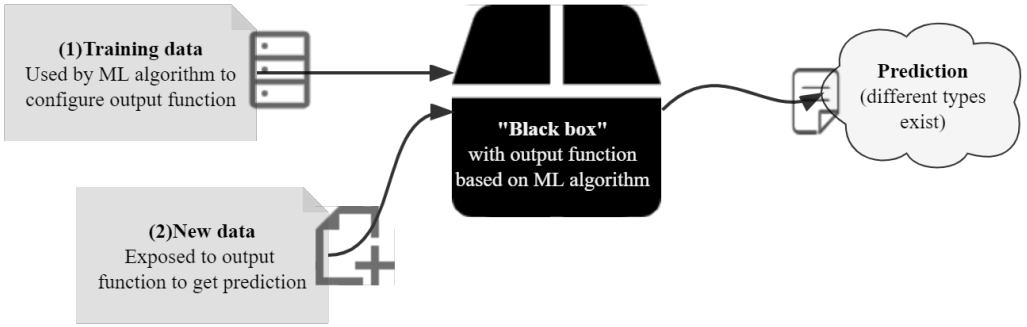


Figure 1: Epilepsy epidemiology

Aims



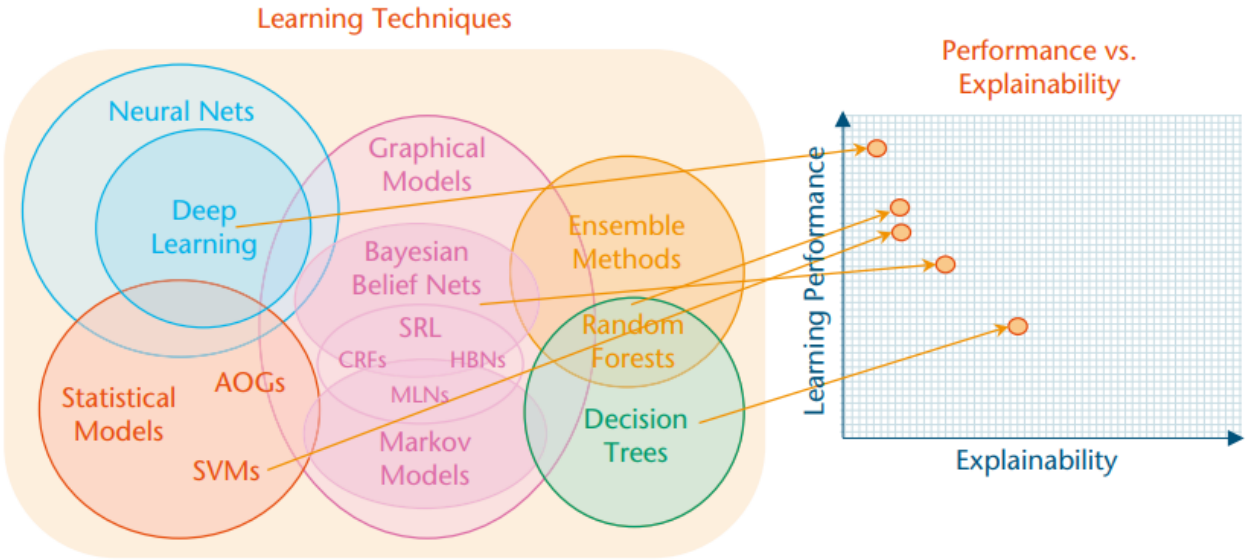


Figure 2: Focuses on interpretability of ML

[Comprehensible AI (2019)]

Scheme

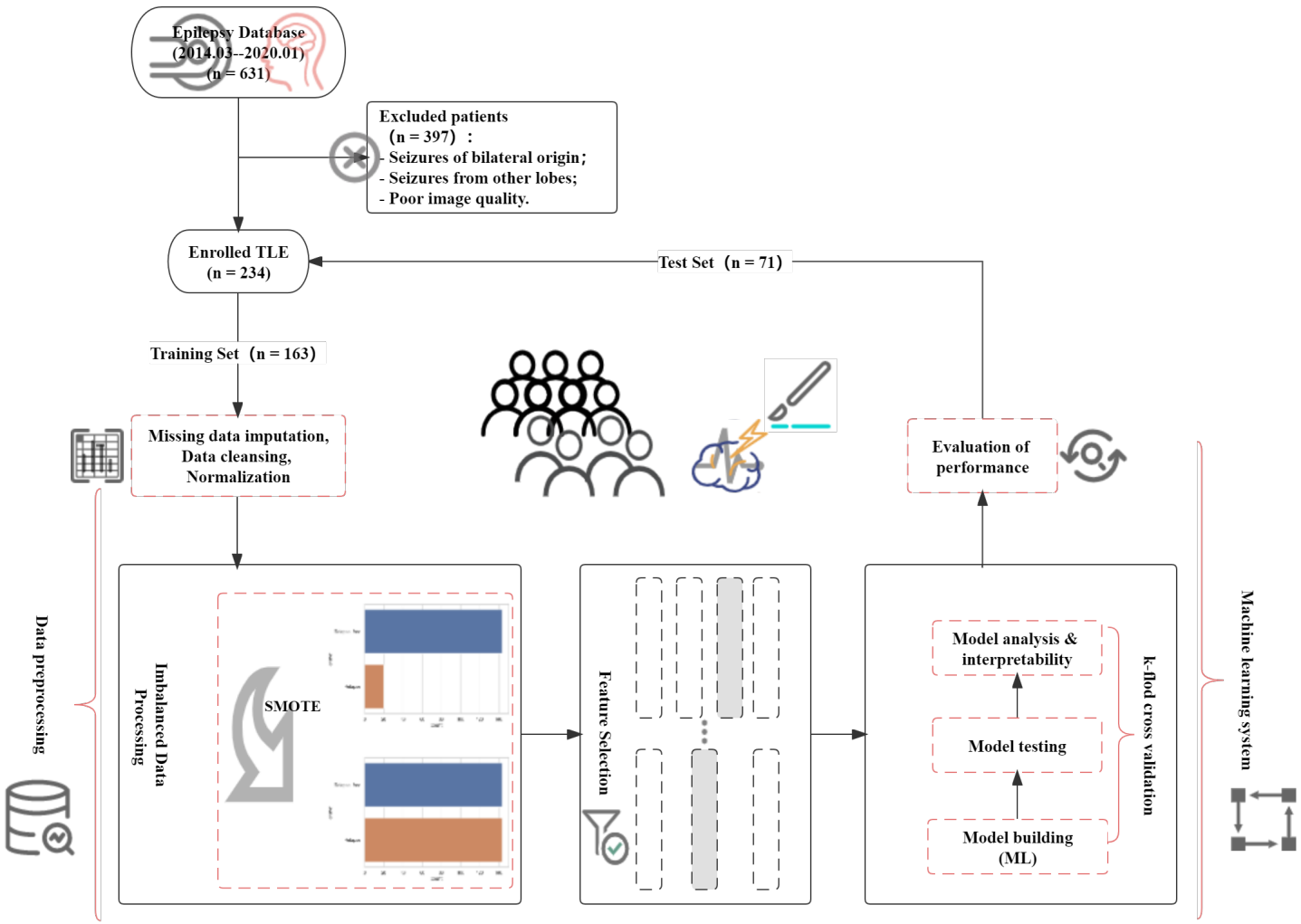


Figure 3: Flowchart

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The Data

EDA

It's a clean, easy to understand set of data. However, the meaning of some of the column headers are not obvious. Here's what they mean,

- age: The person's age in years

SHAP

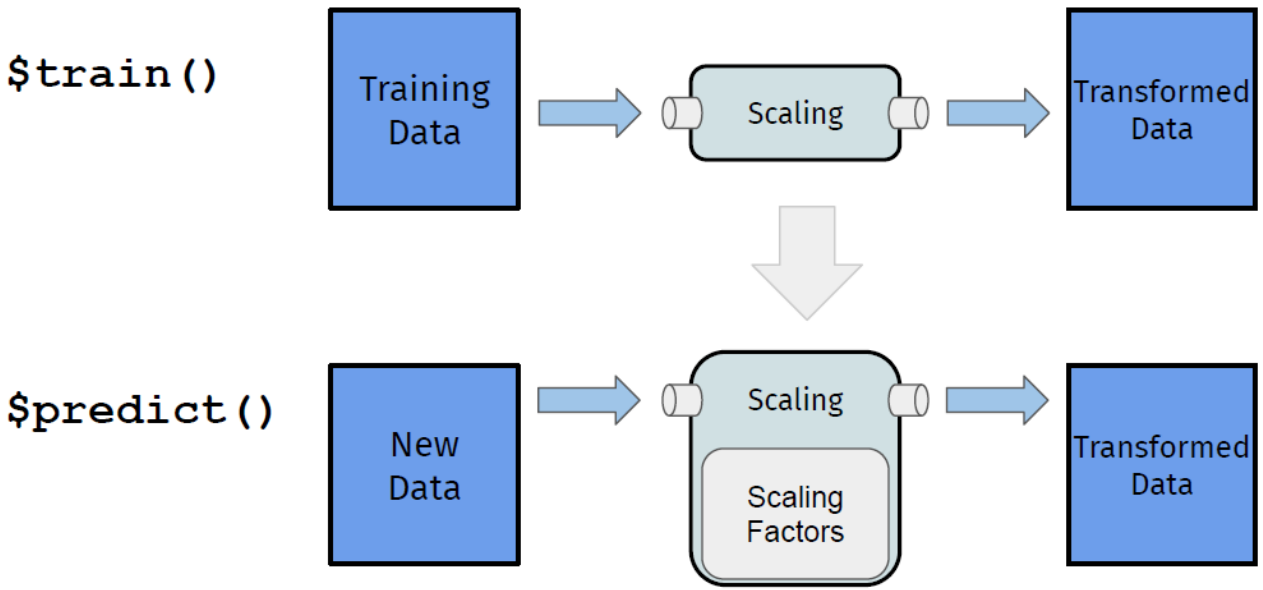
- **Shapley**

The Model

Benchmark

The next part fits a random forest model to the data,

The Explanation


$train()
Training Data
Scaling
Transformed Data
$predict()
New Data
Scaling
Scaling Factors
Transformed Data

Conclusion

con

For more theoretical approaches to machine learning model explanation, see Interpretable Machine Learning: A Guide for Making Black Box Models Explainable,What Causes Heart Disease? Explaining the Model, refer to(Rajpurkar, 2021), (Marc Becker, 2022), (Molnar, 2022)

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THANKS !

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