

STAT 390 Weekly Report 3

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1 Progress/Accomplishments

- Finishing randomness preprocessing for various model types including linear `Preprocessing Code/preprocess_lm`, tree based `Preprocessing Code/preprocess_tree`, and neural network `Preprocessing Code/preprocess_nn`.
- Removed countries in dataset with numerous predictors with large missingness.
- Determined dates to split data into training and testing sets. Training will be data before 2023 and testing will starting 2023.

2 Challenges

- Deciding how to address missingness for predictors with large missingness for different models (i.e. remove predictors in linear, impute large value for trees, create boolean indicators for neural networks).
- Deciding how to address missingness for new models like ARIMA.

3 Next Steps

- Create a training and testing set for each dataset used for different model types. Also, generate validation sets from training set.
- Determining how to deal with missingness in the testing set for different models.
- Apply imputation to random missingness in dataset using clustering by predictor **life_expectancy**.