

Abstract

1 Introduction

- overview
- why are fires important: fires are bad, but if we can stop them early, then they are less bad
- inference vs prediction (we are doing inference)
- why is inference better for this problem
- this paper is organized as follows

2 Background

- summary of reference paper
- how data was collected
- goal
- restate prediction problem

3 Modeling/Analysis

3.1 Exploratory Data Analysis

- initial ideas: what should matter, types of covariates (spatial, temporal, index)
- first plots
- identify problems (colinearity, skewness)

3.2 Feature Design

- transformations
- creations

3.3 Variable Selection

- FFMC
- LASSO
- tradeoff between interpretability for inference vs prediction
- creation of competing models - with and without FFMC
- spatial data - what we have, how we condensed it, variables we made, plots we used including google maps

3.4 Modeling

- types of model we considered: weighted, mixed intercept, good ol lm
- someone please bootstrap something
- best 2 models
- model comparison
- our choice and why

4 Prediction

- apply best model to test set
- report diagnostics
- report p-values
- MSE or some loss function
- final inferences

5 Discussion

6 Appendix