Portfolio

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0.1 About

I'm Jack Krebsbach, and I am currently pursuing a degree in Mathematics with a concentration in Statistics at Hope College in Holland, MI. I use data analysis and statistical learning methods to solve problems. I also enjoy learning about software development.

This is my portfolio showcasing various machine learning, data science, and data analysis problems I have worked on over the years.

0.2 Modeling surface composition of Lake Michigan sand dunes

```
library(tidymodels)
```

```
Registered S3 method overwritten by 'tune':
  method                   from
  required_pkgs.model_spec parsnip
```

```
-- Attaching packages --------------------------------------- tidymodels 0.1.4 --
```

```
v broom        1.0.1      v recipes      0.1.17
v dials        0.0.10     v rsample      0.1.0
v dplyr        1.1.1      v tibble       3.2.1
v ggplot2      3.3.5      v tidyr        1.1.4
v infer        1.0.0      v tune         0.1.6
```

```
v modeldata    0.1.1      v workflows    0.2.3
v parsnip      0.1.7      v workflowsets 0.1.0
v purrr        0.3.4      v yardstick    0.0.8
```

```
-- Conflicts ---------------------------------------- tidymodels_conflicts() --
x purrr::discard() masks scales::discard()
x dplyr::filter()  masks stats::filter()
x dplyr::lag()     masks stats::lag()
x recipes::step()  masks stats::step()
* Use suppressPackageStartupMessages() to eliminate package startup messages
```

```
# To prefer functions from the tidymodels namespace
tidymodels_prefer()
library(tidyverse)
```

```
-- Attaching packages ----------------------------------------- tidyverse 1.3.2 --
```

```
v readr   2.1.3     v forcats 0.5.1
v stringr 1.4.0
-- Conflicts ------------------------------------------ tidyverse_conflicts() --
x readr::col_factor() masks scales::col_factor()
x purrr::discard()    masks scales::discard()
x dplyr::filter()     masks stats::filter()
x stringr::fixed()    masks recipes::fixed()
x dplyr::lag()        masks stats::lag()
x readr::spec()       masks yardstick::spec()
```

0.3 Spotify song data analysis: Classifying song genre and predicting song popularity

0.4 Predicting sales conversion from user data

0.5 PCA Analysis of Lake Michigan Sand Dunes