

Final Project

Majorz

```
library(tidyverse)
library(tidymodels)
library(glmnet)
spotify <- read_csv("data/tf_mini.csv")

lm_all <- lm(us_popularity_estimate ~ duration + release_year + acousticness +
  beat_strength + bounciness + danceability + dyn_range_mean + energy +
  flatness + instrumentalness + key + liveness + loudness + mechanism +
  mode + organism + speechiness + tempo + time_signature + valence,
  data = spotify)
summary(lm_all)
```

Call:

```
lm(formula = us_popularity_estimate ~ duration + release_year +
  acousticness + beat_strength + bounciness + danceability +
  dyn_range_mean + energy + flatness + instrumentalness + key +
  liveness + loudness + mechanism + mode + organism + speechiness +
  tempo + time_signature + valence, data = spotify)
```

Residuals:

Min	1Q	Median	3Q	Max
-9.5072	0.0474	0.3386	0.4694	1.8199

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	9.958e+01	1.031e+00	96.540	< 2e-16 ***
duration	5.881e-05	7.183e-05	0.819	0.412996
release_year	6.490e-04	5.060e-04	1.283	0.199672
acousticness	2.527e-01	6.647e-02	3.802	0.000144 ***

beat_strength	-2.685e-01	1.977e-01	-1.358	0.174358	
bounciness	3.130e-01	2.609e-01	1.200	0.230321	
danceability	1.830e-01	8.479e-02	2.158	0.030927	*
dyn_range_mean	-3.908e-02	1.011e-02	-3.866	0.000111	***
energy	-5.313e-01	5.627e-02	-9.443	< 2e-16	***
flatness	-1.496e-01	1.777e-01	-0.842	0.399619	
instrumentalness	-2.975e-01	2.774e-02	-10.726	< 2e-16	***
key	-2.024e-03	1.411e-03	-1.435	0.151408	
liveness	-1.856e-01	3.044e-02	-6.099	1.08e-09	***
loudness	3.914e-02	2.283e-03	17.146	< 2e-16	***
mechanism	-1.823e-01	1.062e-01	-1.715	0.086279	.
modeminor	1.389e-02	1.073e-02	1.295	0.195287	
organism	-6.483e-01	1.563e-01	-4.149	3.34e-05	***
speechiness	2.505e-01	5.194e-02	4.823	1.42e-06	***
tempo	-3.939e-04	2.358e-04	-1.671	0.094793	.
time_signature	7.404e-03	1.270e-02	0.583	0.559833	
valence	-2.702e-01	2.665e-02	-10.139	< 2e-16	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.127 on 50683 degrees of freedom

Multiple R-squared: 0.0224, Adjusted R-squared: 0.02202

F-statistic: 58.07 on 20 and 50683 DF, p-value: < 2.2e-16

```
plot(lasso_sc)
```

