Course Sequence Analysis

Tim Ransom

Randi Sims

2023-01-27

Contents

1	Project overview	5
2	midfield	7
	2.1 Exploring the tables	7
	2.2 collection of utility functions	7
	2.3 Pulling student course sequences	7
	2.4 Visualizing a student's course sequence	7
3	modeling course sequences	9
	3.1 Random forest model	9
4	model visualization	11

4 CONTENTS

Project overview

TODO

midfield

2.1 Exploring the tables

2.2 collection of utility functions

```
did_student_graduate <- function(mcid) {
  return(degree %>% filter(mcid == mcid) %>% nrow() > 0)
}
```

2.3 Pulling student course sequences

```
# convert to tibble
course <- tibble(course) %>% select(mcid, abbrev, number, term_course) %>% nest_by(mcid)
```

2.4 Visualizing a student's course sequence

TODO: visualize a single students path to graduation

modeling course sequences

We've already gotten our course sequences, lets use them to train a model!

3.1 Random forest model

```
library(caret)

## Loading required package: lattice

##

## Attaching package: 'caret'

## The following object is masked from 'package:purrr':

##

## lift

# https://topepo.github.io/caret/train-models-by-tag.html#random-forest
```

https://stackoverflow.com/questions/57939453/building-a-random forest-withcaret

model visualization

good science comm uses visuals