Project 1

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Trends in ML/AI book checkouts

Machine learning and artificial intelligence have become buzzwords that can be thrown into any discussion or ad with the following phrase: "through the use of AI"

ML/AI terms have become somewhat meaningless buzzwords in media. Ex: Facebook announced an AI to detect suicidal thoughts, but it turns out that the algorithm is a simple pattern-matching approach.

Hypothesis: The number of item checkouts with titles containing ML/AI buzzwords will increase monotonically from 2006 to 2019.

Data retrieval

The query below was used to return a list of items containing ML/AI buzzwords (see below for details).

```
select * from spl_2016.outraw
where title LIKE '%artificial intelligence%'
    or title LIKE '%artificial general intelligence%'
    or title LIKE '%machine learning%'
    or title LIKE '%machine intelligence%'
    or title LIKE '%neural network%'
order by cout
```

Results

Using R to plot data

```
setwd("/Volumes/drive/winter2020/mat259a/proj1")  # set wd
test = read.csv("proj1.0_data.csv")               # read data
counts_per_year = matrix(,nrow=14,ncol=2)         # init data storage
for (i in 1:length(2006:2019)) {                  # add info to data storage
  counts_per_year[i,1]=2005+i; # add year
  counts_per_year[i,2]=sum(substr(as.character(test$cout),1,4) # add occurrences
                    ==as.character(2005+i))
}
ggplot(data=as.data.frame(counts_per_year), aes(x=counts_per_year[,1], # plot
                                        y=counts_per_year[,2]))+
  geom_line()+
  geom_point()+
  xlab("Year")+
  ylab("Checkouts")+
  ggtitle("Checkouts Per Year") + theme(plot.title=element_text(hjust=0.5))
```
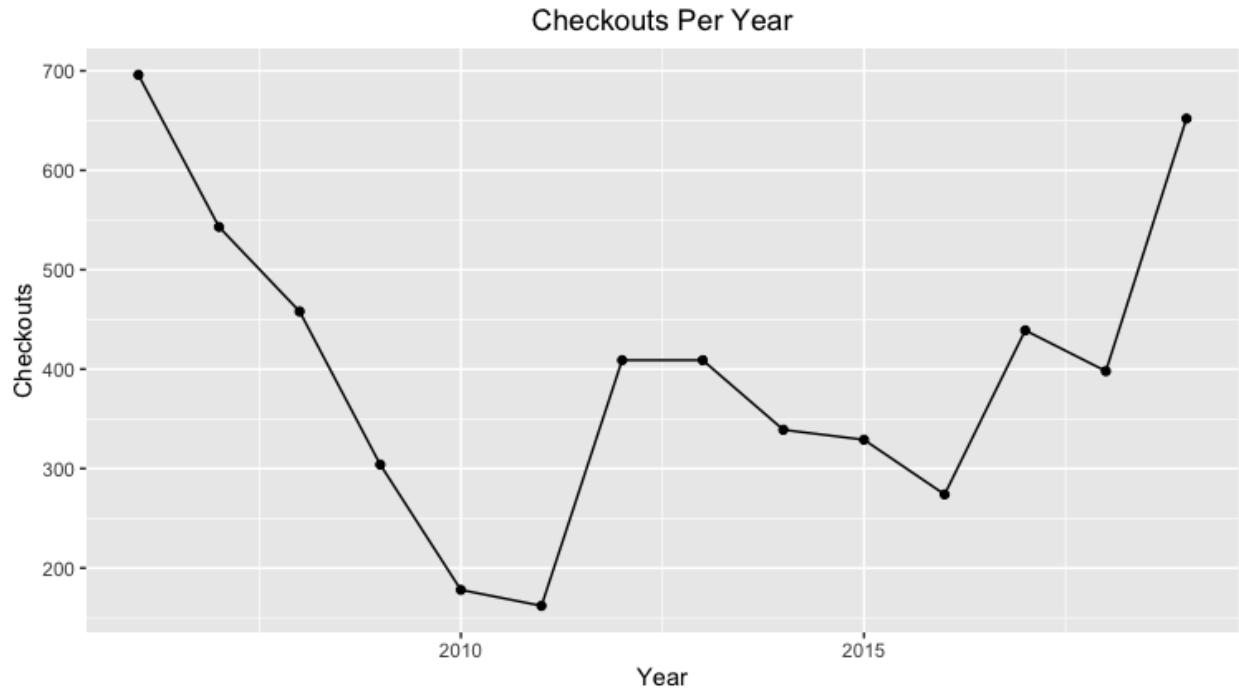
Figure 1: Checkouts per year

Potential approaches for further understanding

- duration of checkouts per year
- checkouts per year grouped by Dewey class
- refine plots with a month-by-month view
- review critical events for these items: item release date, local university ML/AI course offerings, etc.