

# Insights into US Colleges: A Comprehensive Analysis of Admission Cost, Diversity and Academic Offerings

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# Introduction

“What is the socioeconomic status of an average student in US college?”

“Compare and analyze public and private colleges in the United States”



## Question to Ask

- Popular field of study
- Ethnicity and Gender distribution
- Similarities and Differences between Public/ Private
- Hypothesis testing on our findings



# Data Cleaning Process

## Extract



Data source :  
Institutional level data for  
each university [\[URL\]](#)

Data structure :  
Total of 6543 rows ×  
3214 columns

## Transform

Data preprocessing :  
Percentage of null < 30%

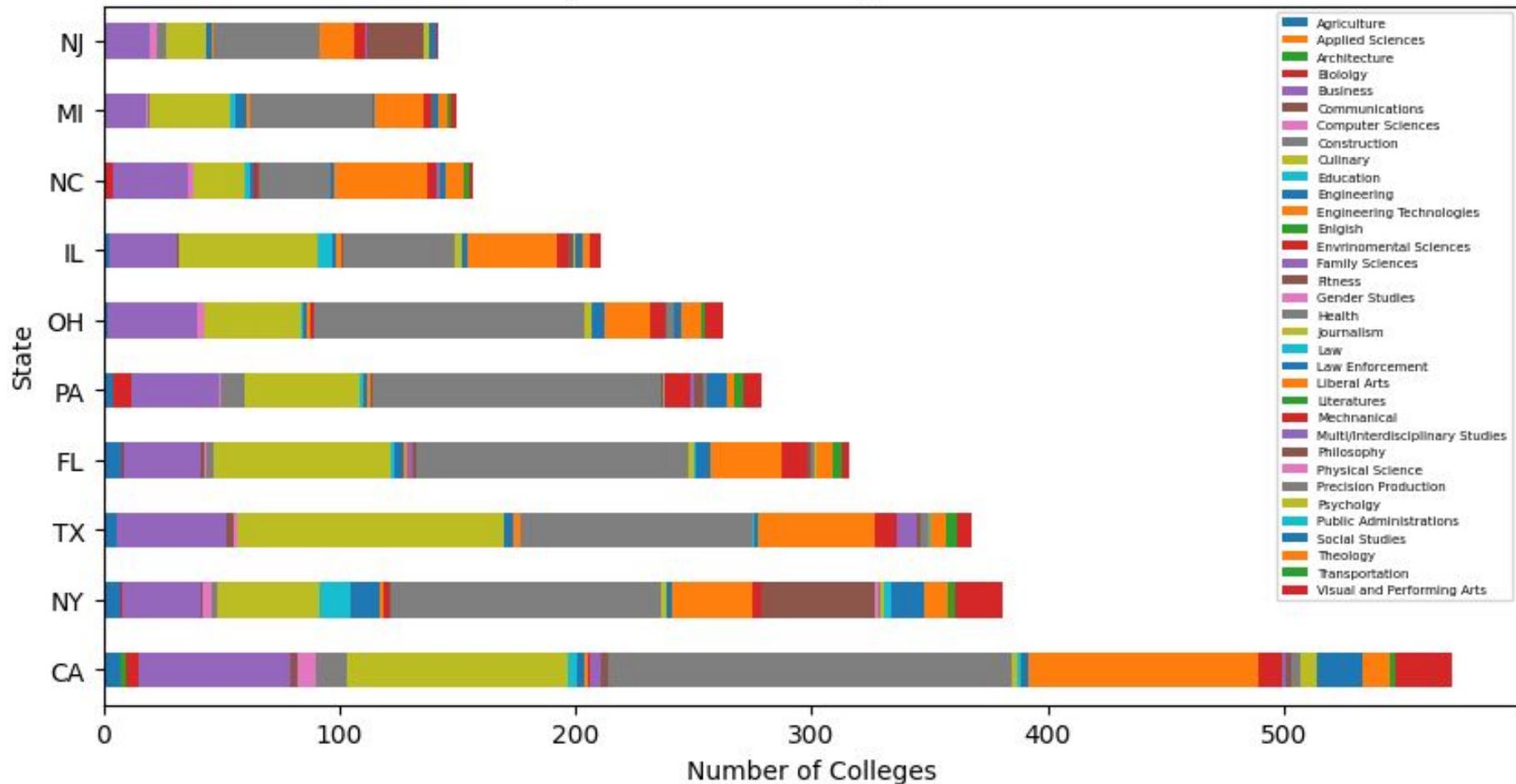
5599 rows × 11 columns  
6044 rows × 13 columns  
5573 rows × 25 columns  
5765 rows × 40 columns  
5219 rows × 8 columns

“Average 15% Data loss”

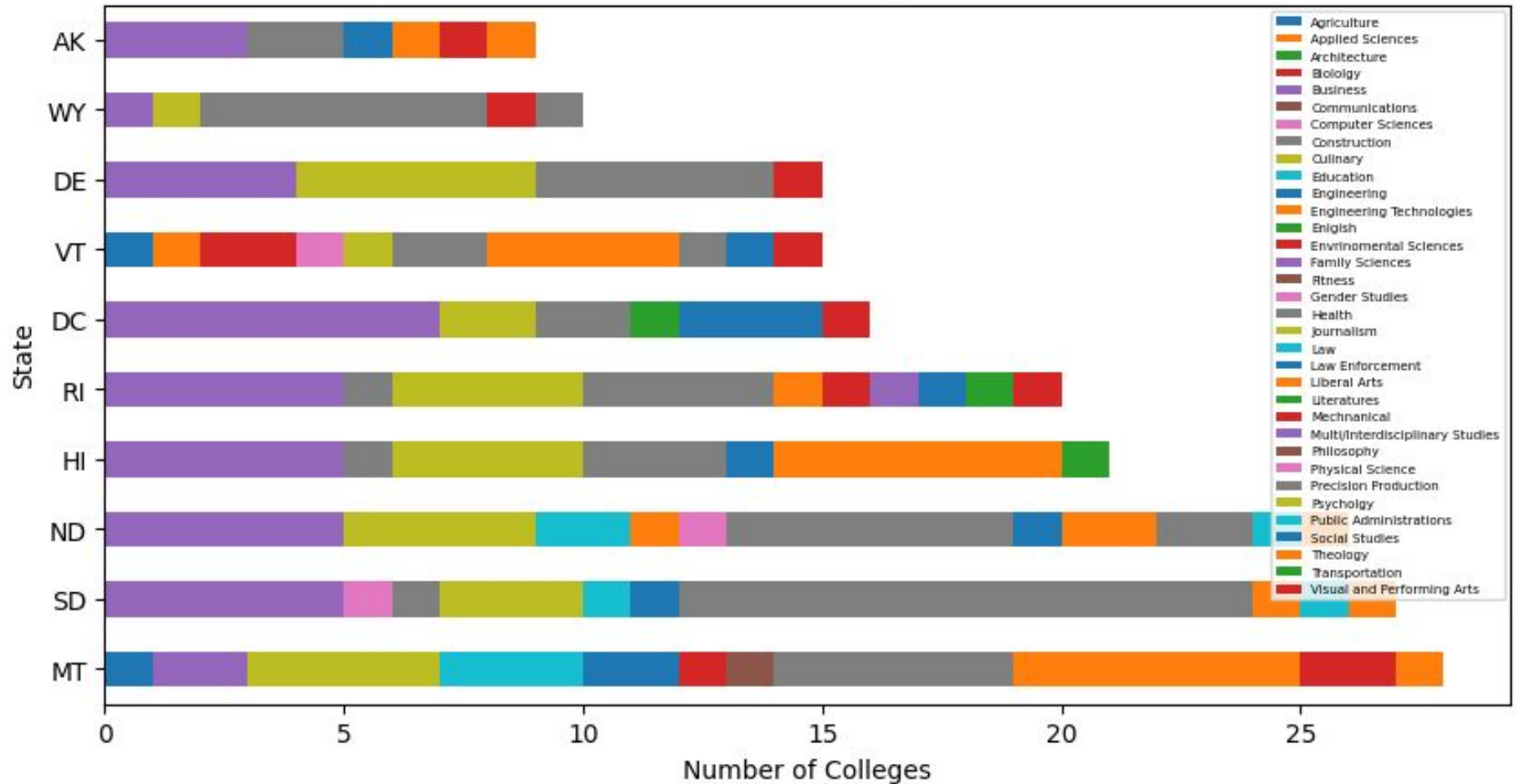
## Load

'data/school\_location.csv',  
'data/school\_type.csv',  
'data/school\_ethnicity.csv',  
'data/school\_major.csv',  
'data/school\_financial.csv'

## Top 10 States and Major Distrubtion

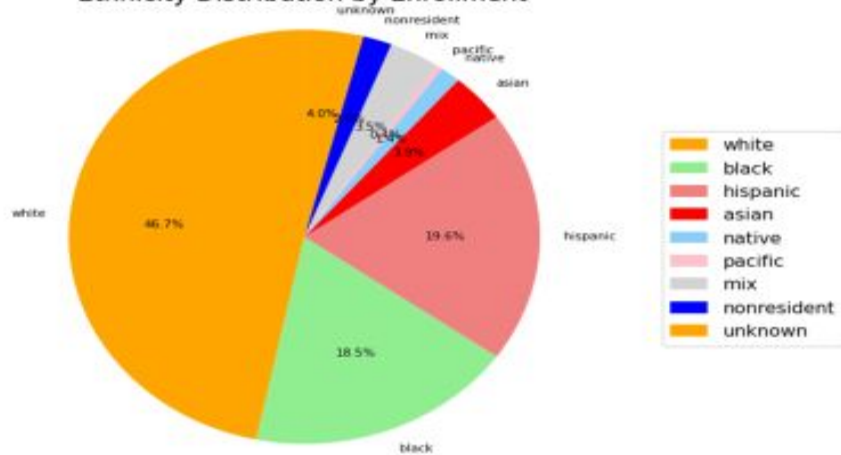


### Bottom 10 States and Major Distrubtion



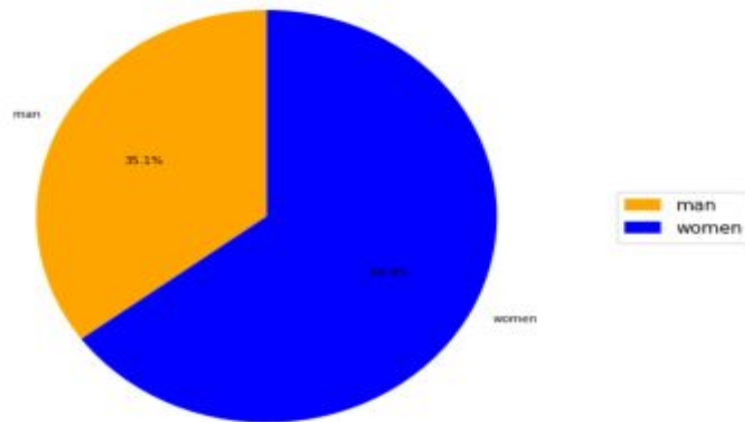
## Ethnicity Distribution by enrollment

Ethnicity Distribution by Enrollment



## Gender Distribution by Enrollment

Gender Distribution by Enrollment





## Cost of Attendance Map Public Institutions



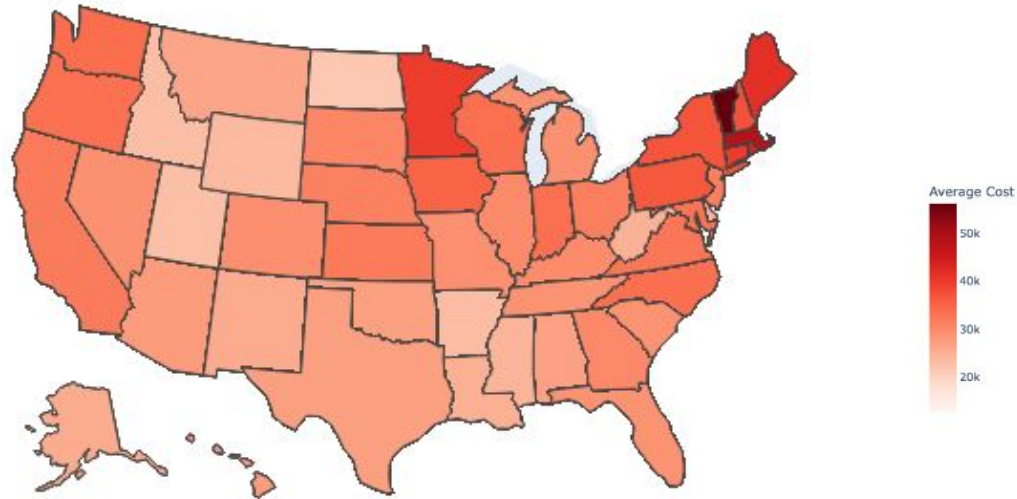
## Cost of Attendance Private Institutions



## Highest Avg Cost Per State

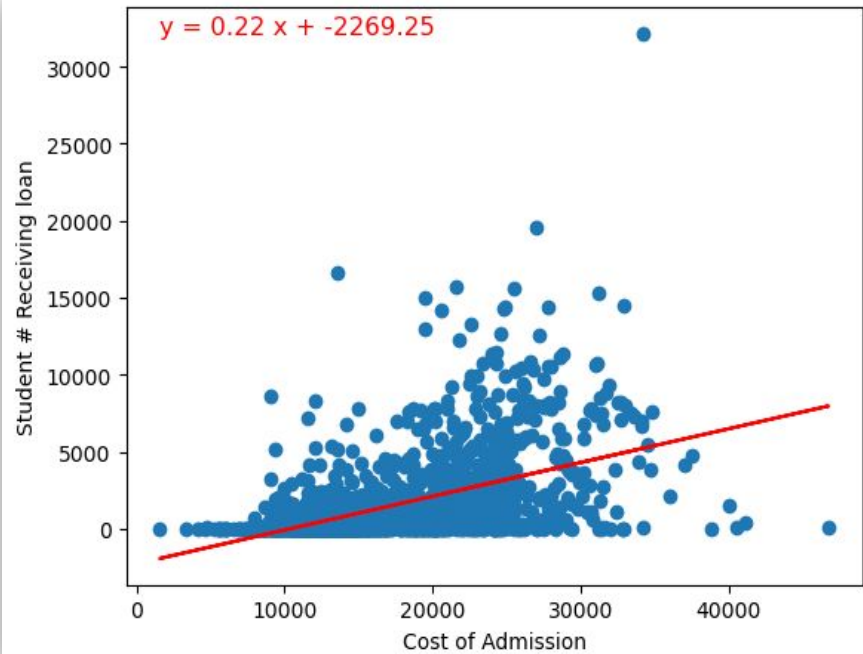


# Average Cost Intensity by State

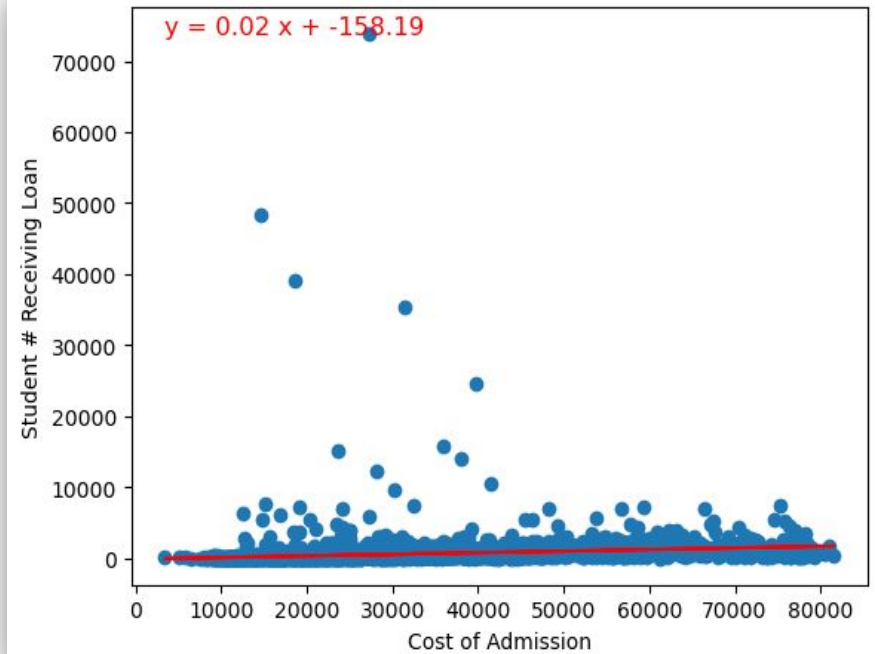


## Cost of Admission vs. Student Receiving Federal loan

*Public School*



*Private School*



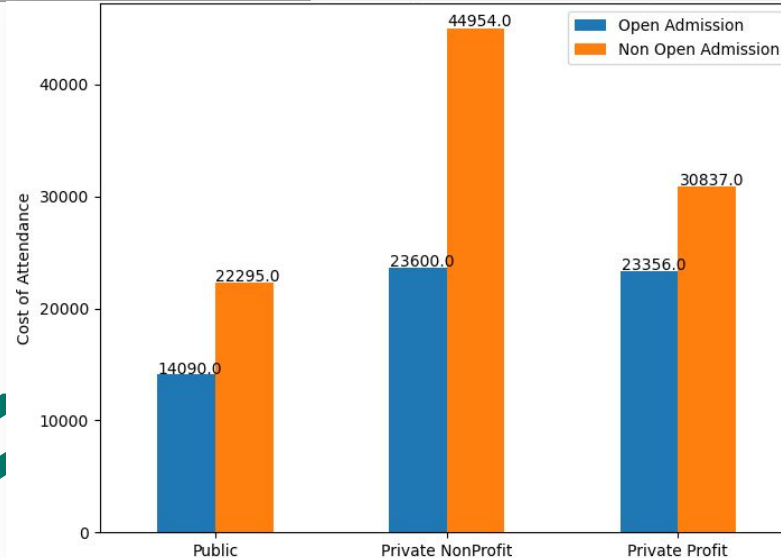
# Cost of Attendance Public vs Private

## College Policy

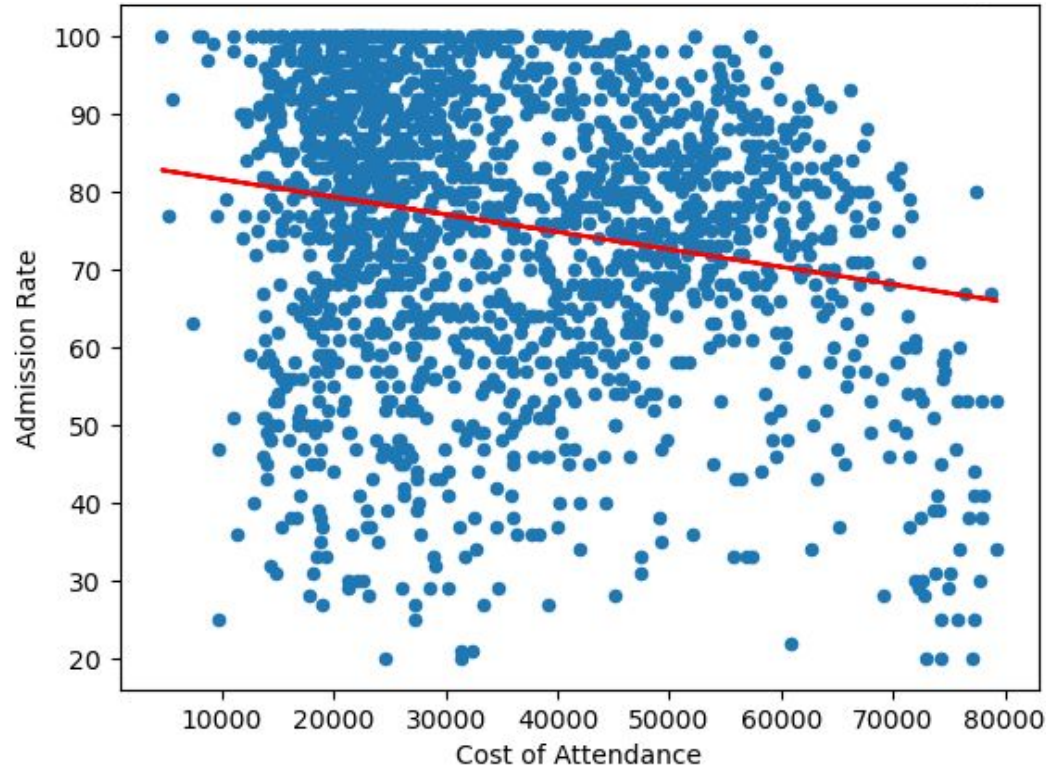
Open Admission	64%
Non Open Admission	36%

## t-test

Public Vs Private	p value-0.0
Open Vs Non Open Admission	0.0



## Cost of Attendance vs Admission Rate(Non Open Admission)



Correlation factor is **-0.2**

# Conclusions

- Public colleges show a predictable pattern: more loan recipients correspond to higher admission costs.
- The independent t-test rejects the null hypothesis, indicating a significant difference in admission cost between public and private institutions.
- This implies that public and private colleges in the United States possess different cost structures.
- Prospective students should consider this distinction and carefully assess their financial circumstances, academic objectives, and the overall value offered by public and private colleges.



Q&A