

# Where It Pays to Attend College Dataset Analysis



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CIS 4200-02

# Dataset Provided & Analyzed

Dataset we chose originally came from Kaggle, but it's source came from "*The Wall Street Journal*," and is an accumulation of three separate csv files:

- Different college majors and their average annual income in different stages of a career (Degrees that Pay you Back)
- The average salary at different stages of a career by the type of college (Salaries for Colleges by Type)
- The average salary at different career stages by region type (Salaries for Colleges By Region)

Dataset was last updated 6 years ago; each csv file contains similar values and columns, with a little difference between the three.

# What is Our Main Objective?



## *Data Analysis Types*

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to analyze difference in salaries by college type, by college region, and the difference in salary increase by each major



## *Region*

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plays an important role, as a region of where a college is in may prove valuable in high-demand and higher pay than that of another region



## *Purpose*

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to figure out which college and/or college major will lead to high-paying careers, as well as which ones will lead to low paying careers



## *Major Choice Assist*

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college students may want to know which majors lead to high paying careers, and if the type of college they plan to attend may benefit that goal

# What Were the Tools Used?

Utilized the following resources  
for our data analysis:

- Excel
- Tableau



# Questions of Analysis

The questions we plan to answer are:

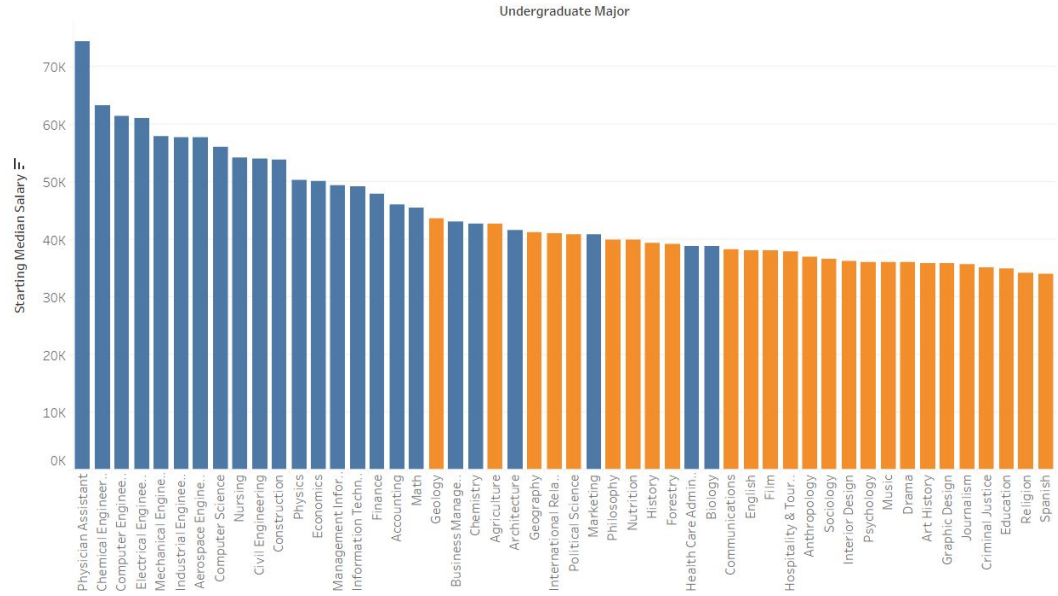
1. What are the highest and lowest paying majors per annual average salary?
2. Do people who attend “better schools” (such as engineering or Ivy leagues) actually have higher paying jobs or are able to obtain raises more than those who attended other schools?
3. Do people who attend universities on the east and west coast tend to have higher-paying jobs?
4. Are there majors that typically pay a lower entry-level job and then pay better after years of experience?

# Q1: Highest and lowest-paying degrees (starting)

We started with the question, “What are the highest and lowest paying majors per annual average salary?” The data allowed us to get more specific and look into the starting median salary and the mid-career median salary.

For the starting median salary we found the 10 highest-paying degrees were under a STEM related field. While the 10 lowest-paying degrees were more related to a Liberal Arts degree.

Highest and Lowest Paying Majors



# Q1: Highest and lowest-paying degrees (mid-career)

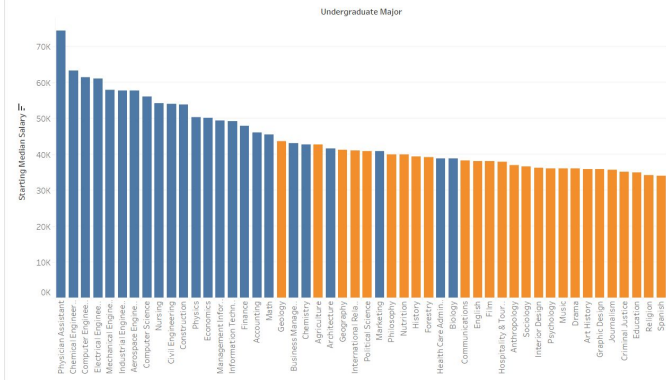
Then we looked at the mid-career median salary for all 50 degrees. Again, we found the 10 highest-paying degrees were in a STEM field while the 10 lowest-paying degrees were in Liberal Arts. This demonstrates the clear difference between the salary of a STEM field degree and Liberal Arts degree.

Highest and Lowest Paying Majors

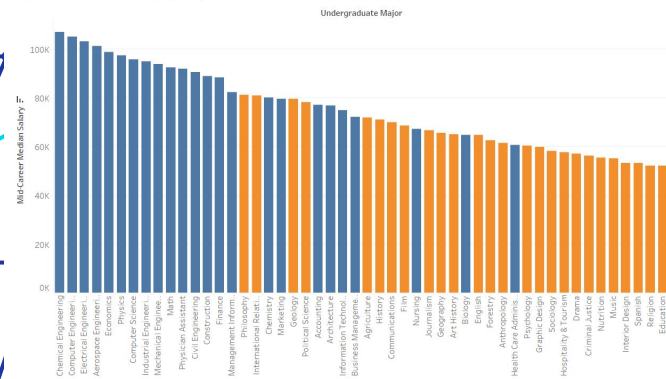


# Q1: Further Analysis

Highest and Lowest Paying Majors



Highest and Lowest Paying Majors

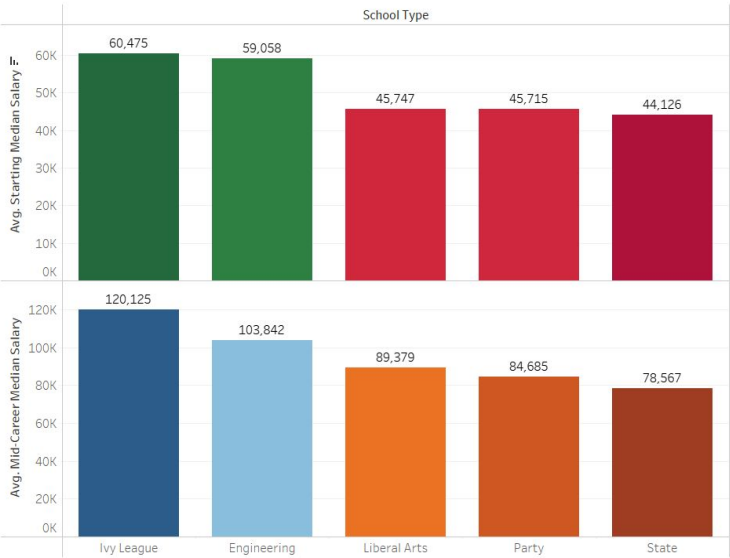


This data analysis demonstrates that whether a student is looking to get well paid early on in a job, or looking to get well paid after a few years, a degree in the STEM field will most likely pay more. There are many other factors that can impact the salary of a given degree, but based on the average salary, the STEM degrees will be paying more. Due to our technology forward mindset as a society.



# Q2: Ivy Leagues vs. State

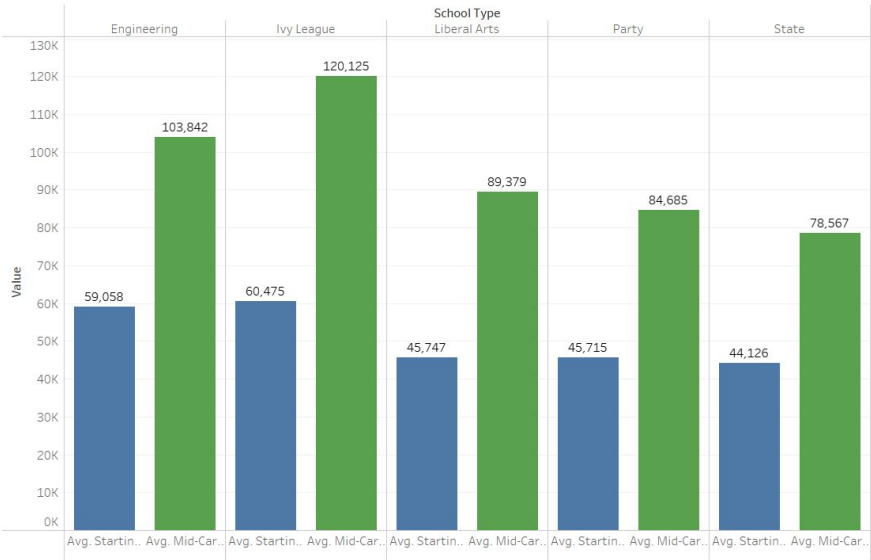
Comparison view of average median starting salary and average mid-career median salary by college type



We can see that those who graduated from Ivy League schools tend to have a higher avg. starting salary than other types of colleges, w/ an annual starting salary of 60k. Engineering schools are close in second, averaging 59k a year. State schools make the lowest starting salary, with a starting salary of 44k a year.

For average mid-career salaries later on, Ivy League schools still come ahead, with a big increase in salary in comparison with the other types of schools (120k mid-career annually). Engineering schools still come in second, however, with a 17k increase difference than that of Ivy League schools. State still is last, with a mid-career average of 78k a year.

Average starting and mid-career salaries by college type

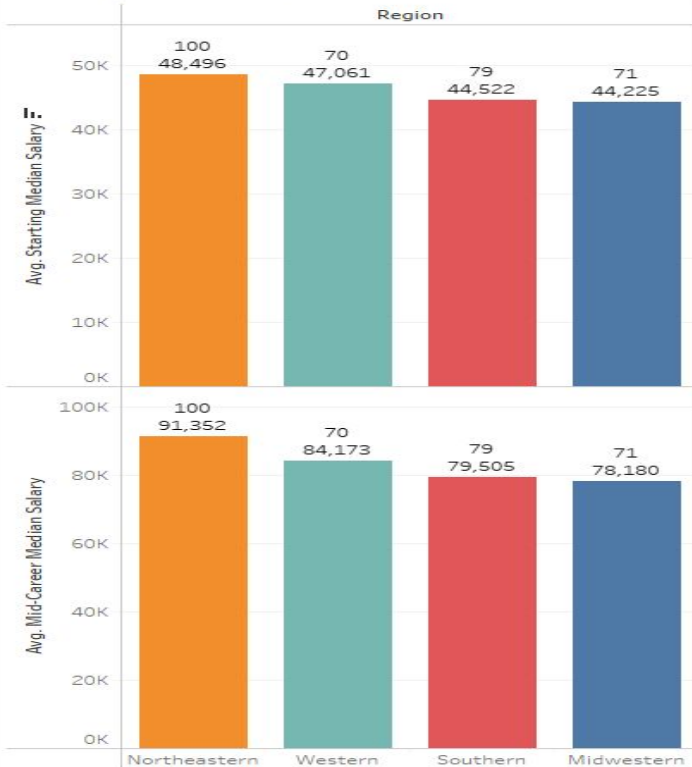


### Q3: Do people who attend universities on the East and West Coast tend to have higher paying jobs?

- People who attend universities on the east coast and west coast do tend to have higher paying jobs than those in the midwest and the southern regions.
- Combined the Californian and Western region into one called West Coast to fit our question
- The count of schools under each region is not equal
- Show you examples of schools that top specific regions and the salary differences

# Average Starting & Mid-Career Salary by Region

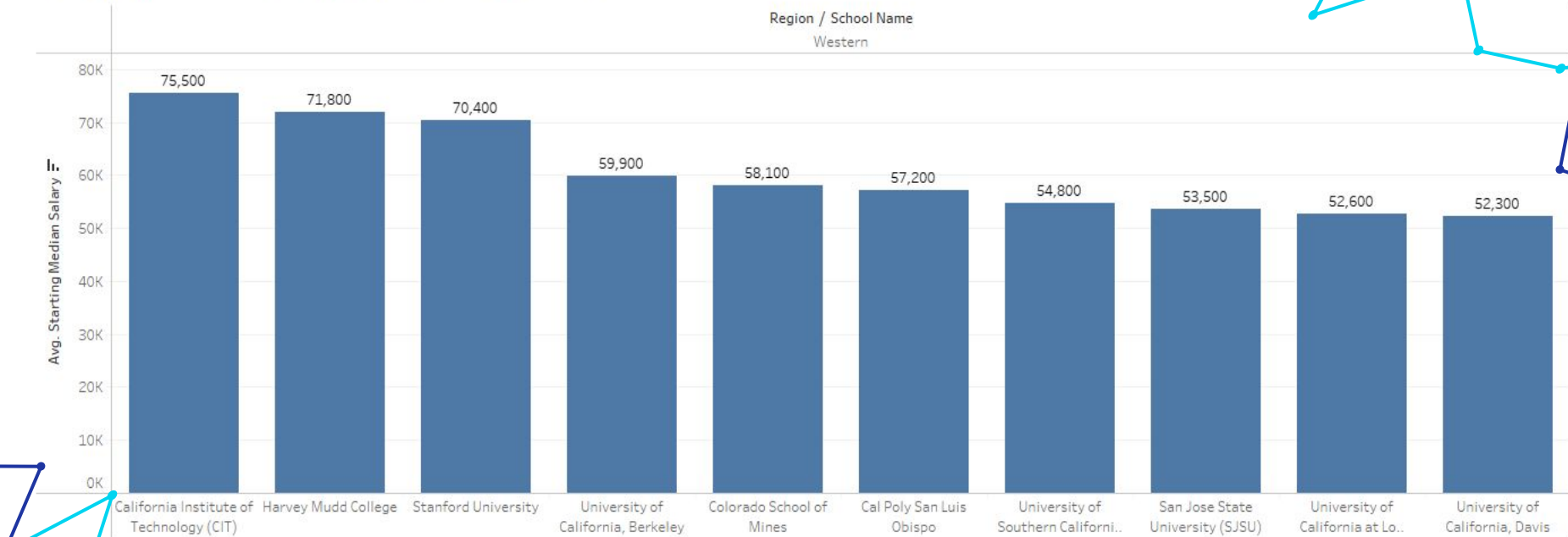
Average Starting and Mid-Career Median Salary by Region



Row Labels	Average of Starting Median Salary	Average of Mid-Career Median Salary
Northeastern	\$48,496.00	\$91,352.00
Western	\$47,061.43	\$84,172.86
Southern	\$44,521.52	\$79,505.06
Midwestern	\$44,225.35	\$78,180.28
Grand Total	\$46,253.44	\$83,934.38

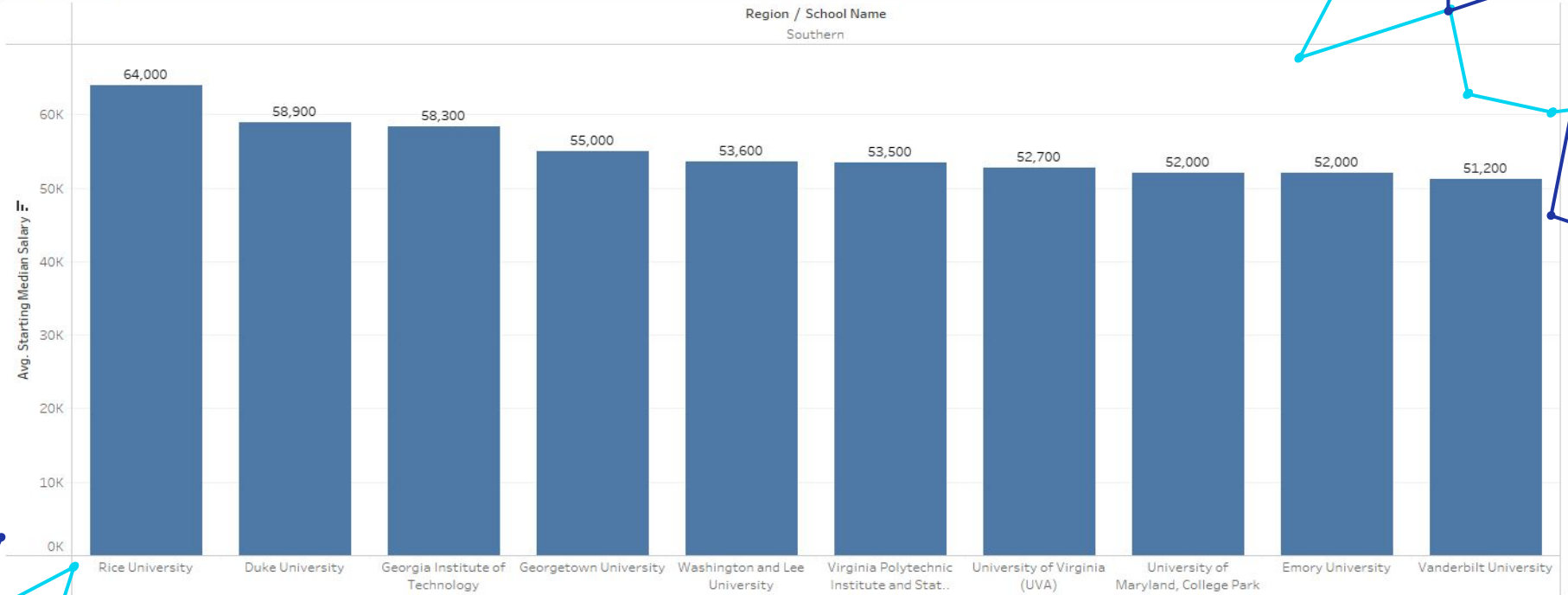
- \$4k difference in salaries for the starting median salary so it isn't a big difference, but is still higher.
- The Mid-Career Median Salary is higher for the West and East coast compared to other regions, but we do see a bigger difference compared to the starting median salaries.
  - East Coast has a \$12-13k difference; the West has a \$6k difference from the Midwest and South.
- The number above the average salaries are the count of schools per region

## Top 10 Highest School Starting Median Salary in the West



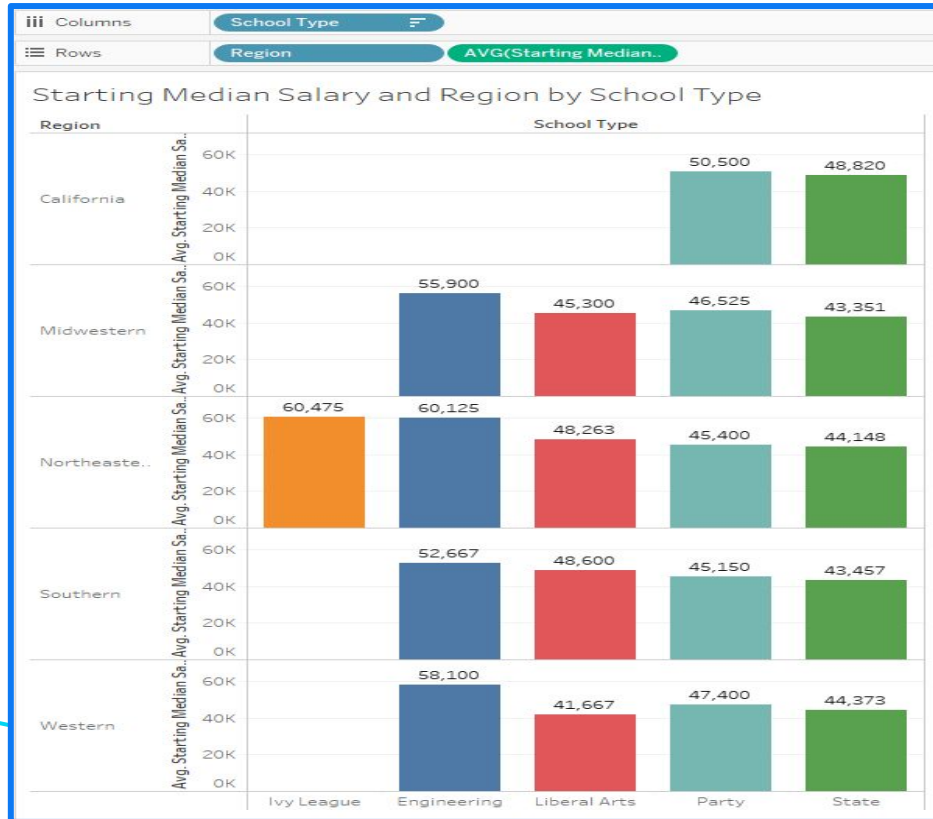
- You will see CIT top the list for starting salary in the west while Stanford, Berkeley, USC, and more make the list, some notable household name universities.

Top 10 Highest School Starting Median Salary in the South



- This chart shows the top 10 schools in the south by starting median salary
- The highest university, Rice University in Texas, has a \$64k starting median salary, lower than the highest school in the west, CIT, by around \$10k.

# Further Analysis



- It was difficult to do further analysis and connecting our 3 sheets
- The school type data sheet had inconsistency and had major school count differences by school type
- For example, there would only be one “party” school in California while having 20 “state” schools in that region
- If we did want to read into this analysis, Ivy Leagues and Engineering schools have higher average salaries than those in other school types

## Q4: Starting to Mid-Career Salary Growth

Are there majors that typically pay a lower entry-level job and then pay better after years of experience?

### Key Takeaways

1. Compare & Contrast Majors via Salary Growth
2. Highest Entry-Level Salary Growth Majors
3. Lowest Entry-Level Salary Growth Majors

# Q4: Comparing/Contrasting Majors

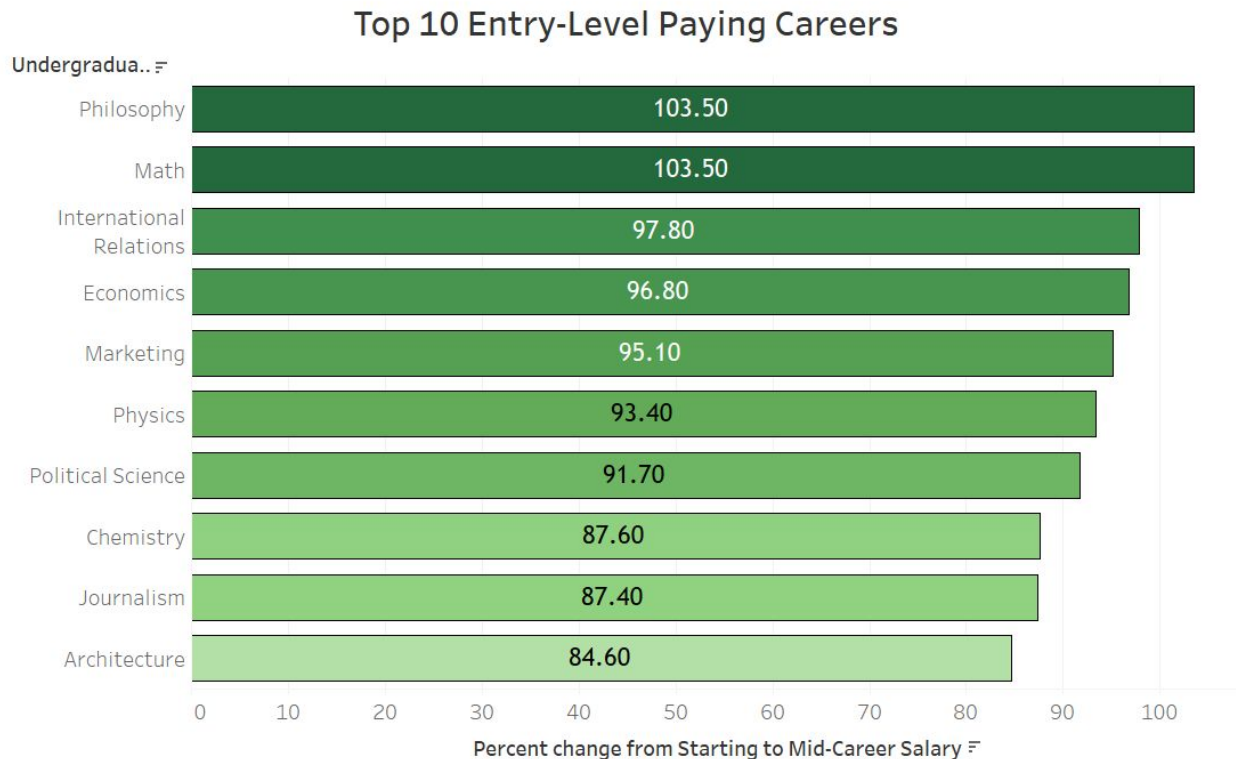
Percentage Difference from Starting to Mid-Career Salary

Math 103.50	Physics 93.40	Finance 84.30	Film 80.70	Electrical Engine 69.10	Graphic D 67.50	Managem 67.30	Anthropol 67.10	Biology 67.00	Constructi 65.50
Philosophy 103.50	Political Science 91.70	Communications 83.70	Aerospace Engine 75.00	Agriculture 68.80	Industrial Engine 64.10	Geogra 59.00	Drama 58.50	Health 56.20	Spanish 56.20
International Relations 97.80	Chemistry 87.60	Geology 82.80	Computer Engineer 71.00	Psychology 68.20					
Economics 96.80	Journalism 87.40	Art History 81.30	Computer Science 70.80	Civil Engineering 67.90	Mechanical Engin 61.70	Criminal Justice 60.90	Music 53.20	Hospitality 52.10	Education 49.00
Marketing 95.10	Architecture 84.60	History 81.10	English 70.30	Business Manage 67.70	Forestry 60.10				
			Chemical Engineeri 69.30	Accounting 67.60	Sociology 59.50	Religion 52.50	Interior Desig 47.40	Nursin 23.60	Physici 23.40
						Information Te 52.30	Nutrition 38.60		

SUM(Percent ch... 23.40 103.50

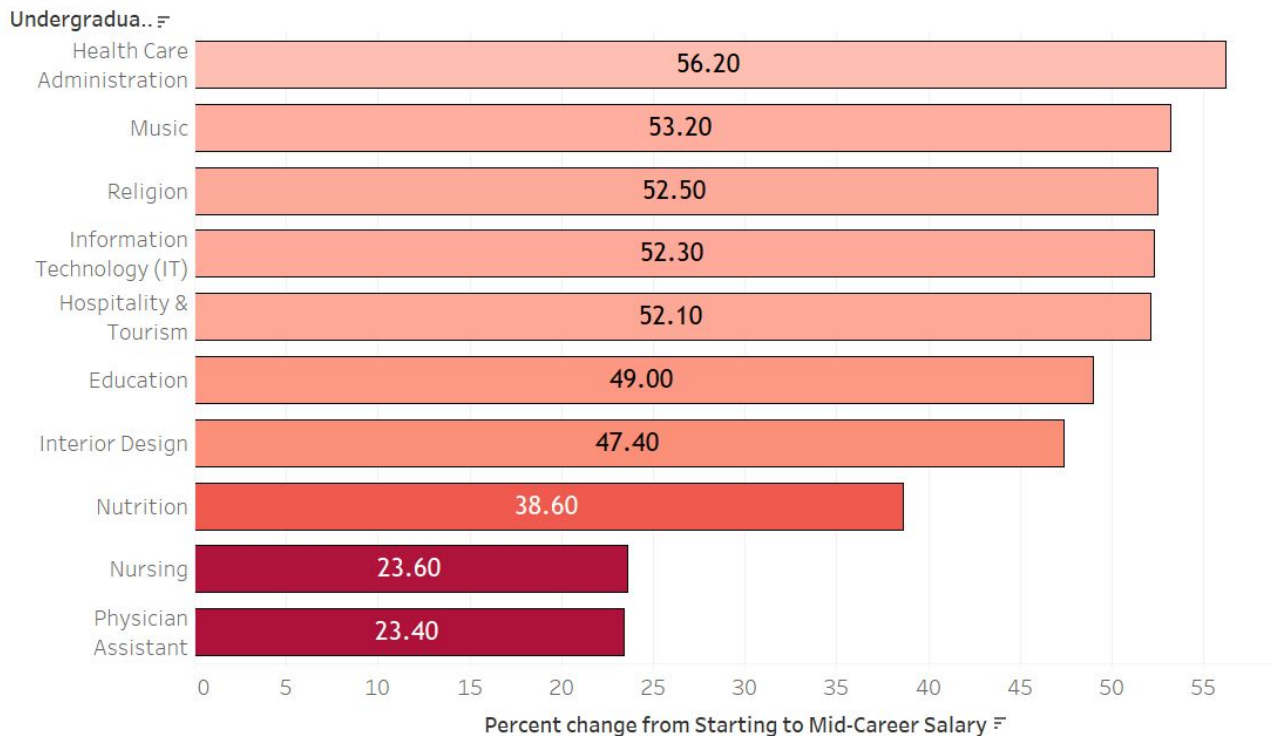


# Q4: Highest Entry-Level Salary Growth Majors



# Q4: Lowest Entry-Level Salary Growth Majors

Bottom 10 Entry-Level Salary Careers



# Conclusion

Many of our initial hypotheses of each question were correct with our findings

For the question, we did assume that the STEM majors would be the highest paid as it is a field that in a lot more demand now. It was also shown that they continue to have higher paying jobs even when they reach mid career

On the second question, we assumed that Ivy leagues would be the highest paid degrees, but we were surprised when engineering schools came as a close second. Ivy leagues did appear to be significantly better when as they receive higher salaries later into their careers.

## Conclusion (continued)

On the third question, we also guessed that west and east coast schools would be getting paid higher, which was also true, but the trend continued that the starting salary was a small difference with the mid-career having a larger difference.

On the last question, we were unsure of what the answer would be. We were surprised to find out that philosophy was one of the majors that had the highest increase in pay over time and how many medical related degrees such as nursing and physician assistant had the lowest increase

# Thank You!

Any Questions/Comments?

