

CollegeVis: Seeing the Big Picture

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Abstract—Higher education is a very expensive and arduous endeavor, yet young adults face this difficult decision every year at the culmination of their high school career. High school faculty work to inform students and prepare them for this decision. Nonetheless, students are exposed to an overwhelming amount of information during their college and career search journey, which can lead to further confusion.

Many high school students do not have first-hand experience or extensive knowledge of the careers they ultimately pick due to the difficulty of organizing all the information available. Therefore, data visualizations that efficiently display majors, salaries, and colleges can be useful tools to simplify the college search process and provide students a more comprehensive idea of their chosen career.

Index Terms—Higher education, data visualization, high school students, college search, major selection, career exploration.

I. INTRODUCTION

The new technological age is a time of big data, allowing us to navigate the web and access countless sources of information. This is a great advancement that eliminates the time-consuming process of physically conducting research at a library. Nonetheless, it is important to acknowledge the negative implications of such ubiquitous data.

Easy access to vast amounts of information, can be detrimental in regards to decision-making processes. If no structure exists to organize information found online, it can result in further confusion rather than clarity and thus lead to a lack of motivation. This is the case for many soon-to-be high school graduates, who are undergoing a college and career search with little to no organizational preparation. Moreover, college outreach efforts that incorporate new digital methods such as emailing and digital marketing have over-saturated the online environment for prospective students.

II. PROBLEM STUDY

Eric Neutuch's article *Information Overload* from the Journal of College Admission, recount's the college search experience of several high school seniors. Students describe instances of receiving anywhere from 2,000 to over 6,000 emails by January of their senior year. This is possible through student contact information sourced from the College Board's database including SAT, AP, and PSAT student data. Colleges purchase licenses for student data that fits their target demographics and proceed to mass market in the form of emails, advertisements, and mail. Incidentally, this overload of information has led to reduced information retention as students such as high school senior Fritzgerald Duvigneaud, ignore all emails except those regarding their academic area of interest or financial aid. Additionally, first-generation students

Majors Bubble Chart | Starting Median Salary



Fig. 1. Visualization of college majors, with size based on starting median salary.

prove to be more impacted by the abundance of information due to the lack of parental guidance in college admissions procedures.

- Note: Will add information about the Bandura theory of career decision self-efficacy. (CDSE)

III. MOTIVATION

This problem needs acknowledgement, due to the fact that higher education is an expensive endeavour that will impact an individual's future career. How can we address the over-saturation of information regarding college admissions to improve high school student comprehension and retention in their college and career search journey? This projects aims to address these concerns by providing interactive visualizations to centralize college data available to high school students. Moreover, another objective from these visualizations is to allow high school students to view the pros and cons of a given major based on the salary amount at different points in their career. This will allow for long-term considerations, before committing to a career.

IV. RELATED WORKS

Visual representations of information have been proven to evoke greater enthusiasm and depth of learning.

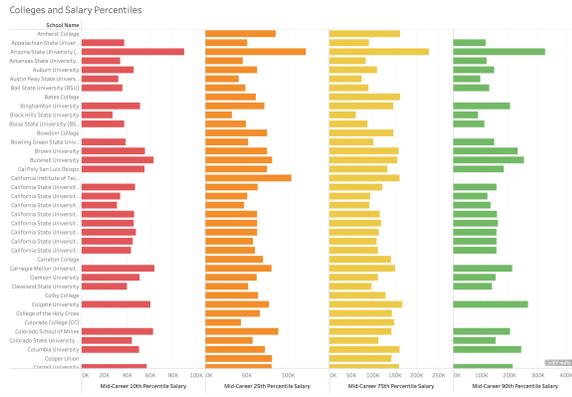


Fig. 2. Visualization of mid-career salary percentiles based on colleges.

A. Interactive Visualization for Chemistry Teaching

B. Role and Impact of Visualization in Educational Material Presentation

V. VISUALIZATIONS

The data used in the given visualizations was obtained from the Wall Street Journal based on data from Payscale, Inc. encompassing colleges throughout the United States. The three following categories are included in the data-set:

- Salary increase by type of college
- Salaries by region
- Salary increase by major

VI. CONCLUSION

The conclusion goes here.

REFERENCES

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