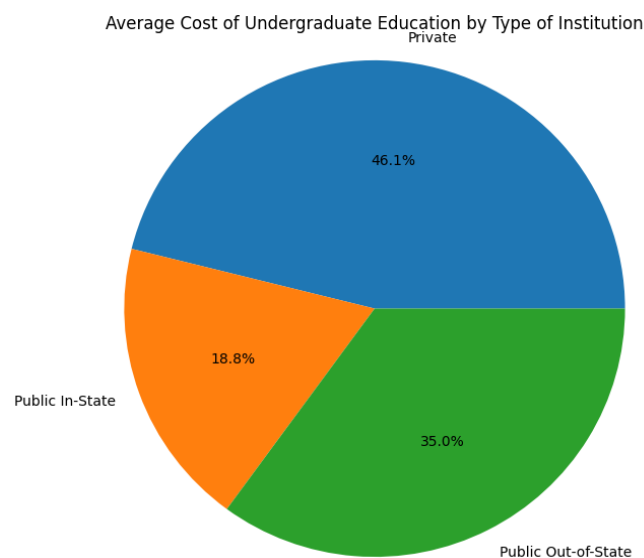


**Name: Samra Nouman**

**Git link <https://github.com/Samranouman/Visualization.git>**

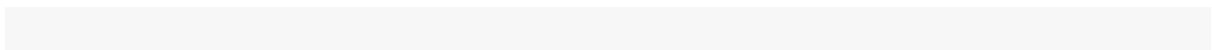
The data set I used was Average cost of undergraduate student by state USA  
<https://www.kaggle.com/datasets/bhargavchirumamilla/average-cost-of-undergraduate-student-by-state-usa>

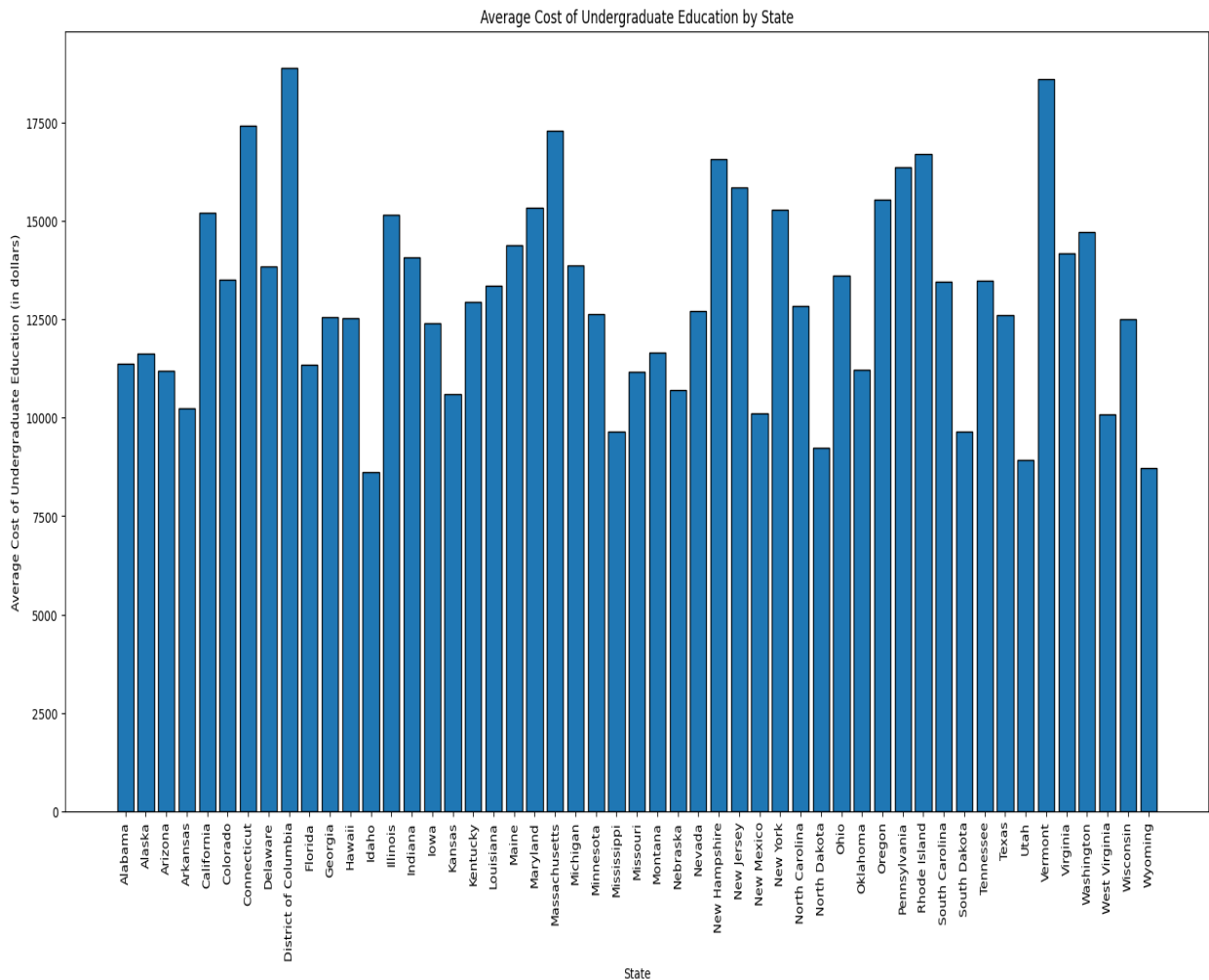
### **Visualisation 1: Pie chart that shows the average cost of undergraduate education by type of institution**



A An average cost breakdown by institutional type could be displayed using a pie chart. It's useful to show the relative proportions of different categories in a dataset using a pie chart. A pie chart displaying the mean costs of undergraduate education for three different types of institutions (public in-state, private, and public out-of-state). The conclusion that can be drawn from this visualisation is that private institutions have the highest average cost of undergraduate education, followed by public out-of-state institutions and then public in-state. This can be seen from the size of the wedges in the pie chart.

### **Visualisation 2: Bar chart that shows the average cost of undergraduate education by state.**



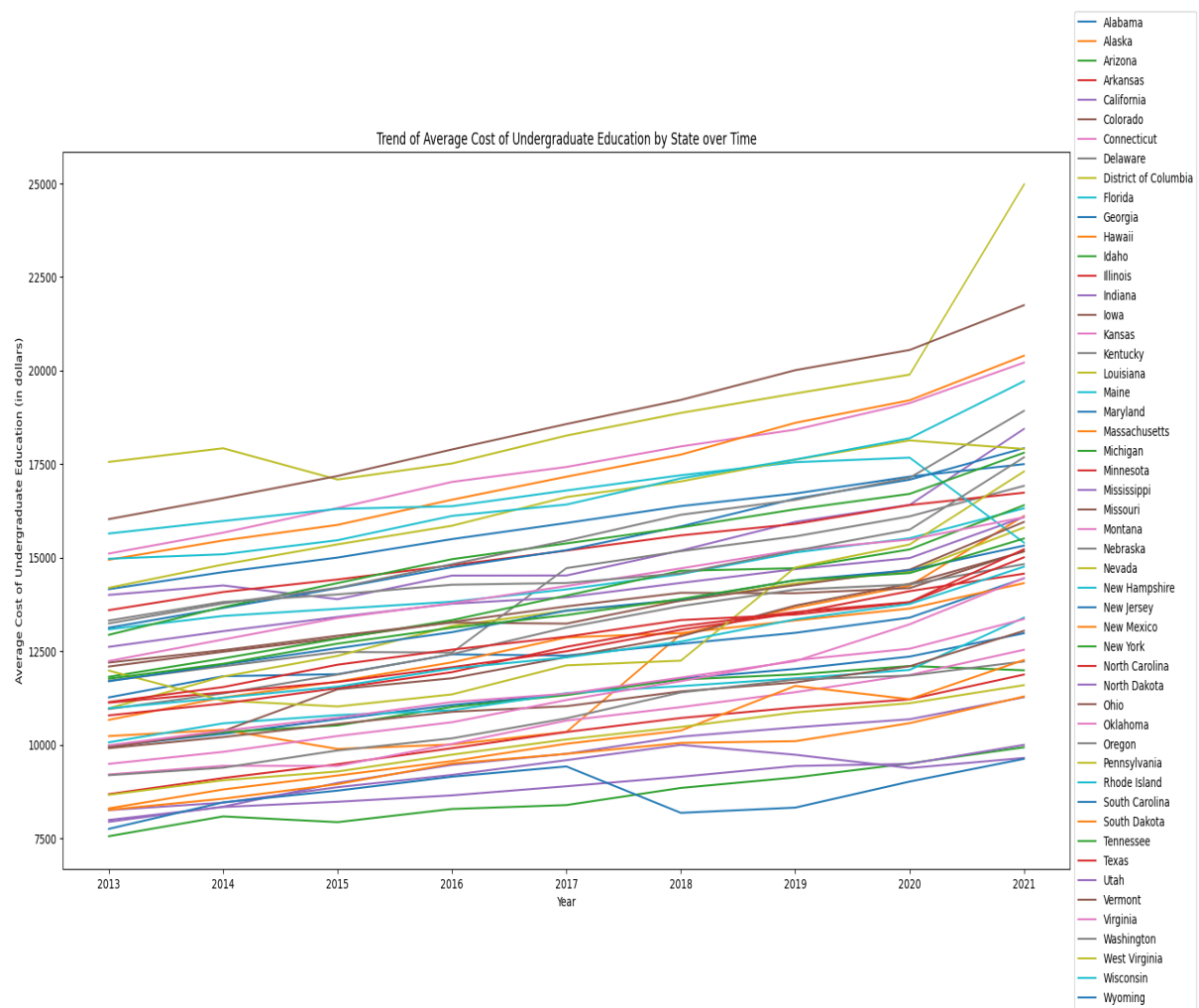


In addition to allowing for easy comparison between states, the stacked bar chart shows the relative contributions of different expenses that make up the total cost of undergraduate education. The chart shows each state as a separate bar, and the total height of the bar represents the average cost of undergraduate education in that state. The bars are stacked, with each segment representing the average cost of a different type of expense (such as tuition, room and board, etc.).

By Based on the chart, we can easily compare the average cost of undergraduate education across states, as well as see how the different expenses contribute to the total cost of education. We can see, for example, that District of Columbia has the highest average undergraduate education cost, which is almost 20,000 dollars. We can also see that some states (such as Wyoming) have a much lower average cost of education, which has less than 10,000\$ cost almost.

Overall, the stacked bar chart provides a clear and easy-to-understand representation of the data, allowing us to draw conclusions about the average cost of undergraduate education by state.

### Visualisation 3: Line chart that shows the trend of average cost of undergraduate education by state over time



This type of graph is a line chart and it is useful for showing trends and changes over time. It was a good choice for this data set as it is a time series data set where the data changes over time. By grouping the data by state and year and calculating the average cost of undergraduate education for each group, the line chart can show the trend of the average cost of undergraduate education for each state over time.

The graph shows that the cost of undergraduate education varies significantly between states and has generally increased over time. Some states have had a more significant increase in costs compared to others. The graph can help policymakers and educators to make decisions and take actions to address the increasing costs of undergraduate education, especially in states where the cost has risen significantly.