**Analysis of Colleges and Universities in U.S.**

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**Objective**

To analyze trends in U.S. higher education using machine learning and data science methodologies. The goal is to identify patterns, relationships, and potential future directions that can help students choose and enroll in colleges or universities.

**Data Summary**

The College dataset, available in the file College.csv on the Introduction to Statistical Learning book's website, contains information on 777 universities and colleges across the United States. The dataset includes the following variables

| **Private**: (Categorical) | Indicates whether the institution is private or public. |
| --- | --- |
| **Apps**: (Quantitative) | Number of applications received. |
| **Accept**: (Quantitative) | Number of applicants accepted. |
| **Enroll**: (Quantitative) | Number of new students enrolled. |
| **Top10perc**: (Quantitative) | Percentage of new students from the top 10% of their high school class. |
| **Top25perc**: (Quantitative) | Percentage of new students from the top 25% of their high school class. |
| **F.Undergrad**: (Quantitative) | Number of full-time undergraduate students. |
| **P.Undergrad**: (Quantitative) | Number of part-time undergraduate students. |
| **Outstate**: (Quantitative) | Out-of-state tuition costs. |
| **Room.Board**: (Quantitative) | Room and board costs. |
| **Books**:(Quantitative) | Estimated book costs. |
| **Personal**: (Quantitative) | Estimated personal expenses. |
| **PhD**: (Quantitative) | Percentage of faculty with Ph.D. degrees. |
| **Terminal**: (Quantitative) | Percentage of faculty with terminal degrees. |
| **S.F.Ratio**: (Quantitative) | Student-to-faculty ratio. |
| **perc.alumni**: (Quantitative) | Percentage of alumni who donate. |
| **Expend**: (Quantitative) | Instructional expenditure per student. |
| **Grad.Rate:** (Quantitative) | Graduation rate. |

**Context and Questions**

**Methods**

### **Analysis**

### **Results**

### **Conclusion**

### **Appendix**

### **References**