Project 2

IE6600 15824 Computation and Visualization SEC 01 Fall 2024

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Topic: Data Visualization dashboard that analyzes various regional data based on zip codes

Objective: To create a dashboard representing a specific county's desirability and suitability based on some variables.

Data Collection:

The dataset comprises information on 33 zip codes of Providence County in Rhode Island, which includes Population and Density, Education, Health, Business, Income and Employment.

Data was extracted from population density dataset and U.S. Census Bureau.

Score Calculation:

The composite score is calculated using the following variables and weights:

1. Population density (10% weight, inverse relationship)
2. Median Household Income (20% weight)
3. Education (bachelor's degree or higher) (20% weight)
4. Employment rate (20% weight)
5. Total Employer Establishment (10% weight)
6. Health (Without Health care Coverage) (20% weight, inverse relationship)

Methodology:

1. **Normalization**: Variables like population density, income, education, employment, and healthcare were scaled to 0–1 using Min-Max scaling.
2. **Inversion**: Factors like population density and lack of healthcare were inverted as higher values indicate fewer desirable conditions.
3. **Weighted Score**: Normalized values were weighted by importance and summed to calculate the composite score.

4. **Outcome**: The score reflects overall desirability, accounting for both direct and inverse relationships.

Dashboard link:

https://public.tableau.com/views/UdhayChityalaDashboatrd/DashboardProvidence?:language=en-US&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link

Citations:

- U.S. Census Bureau. (2023). 2022 American Community Survey 5-Year Estimates. Retrieved from https://www.census.gov/data.html[1]
- Population density. (2022). Retrieved from https://www.fourfront.us/data/datasets/us-population-density/[2]