IE6600 Computation and Visualization SEC 01 Fall 2024

Assignment 3

Data Visualization of Patents across different Metropolitan Statistical Areas (MSAs)

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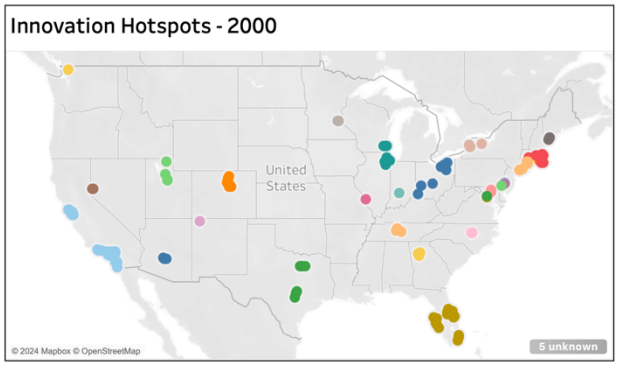
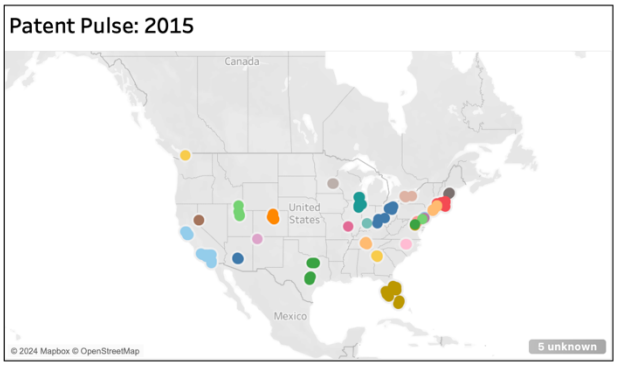
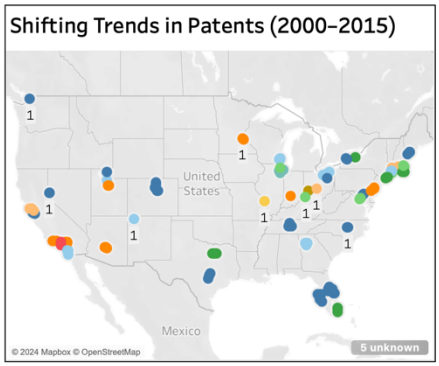
- Report
- Tableau Visualization

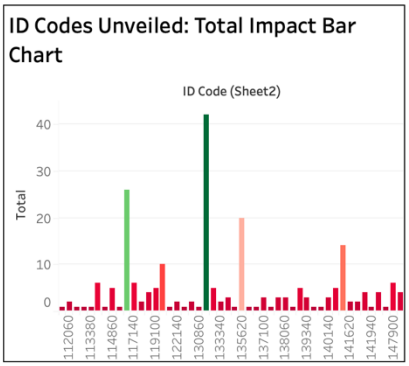
Tableau Visualizations

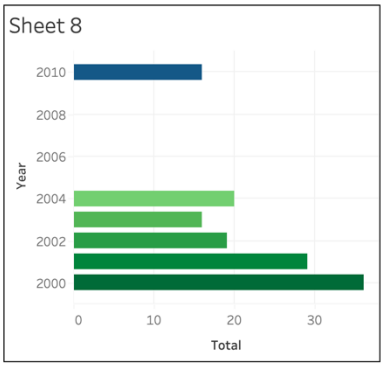
Patents across different Metropolitan Statistical Areas





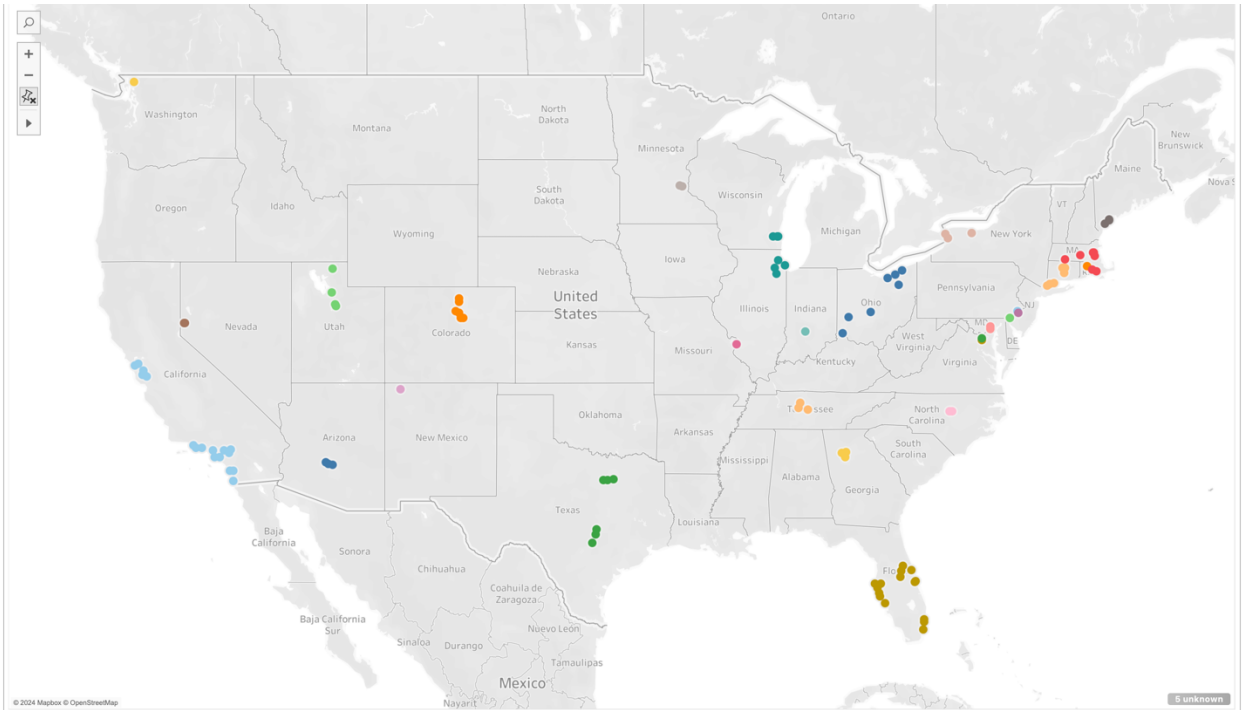






Report

1.Innovation Hotspots-2000

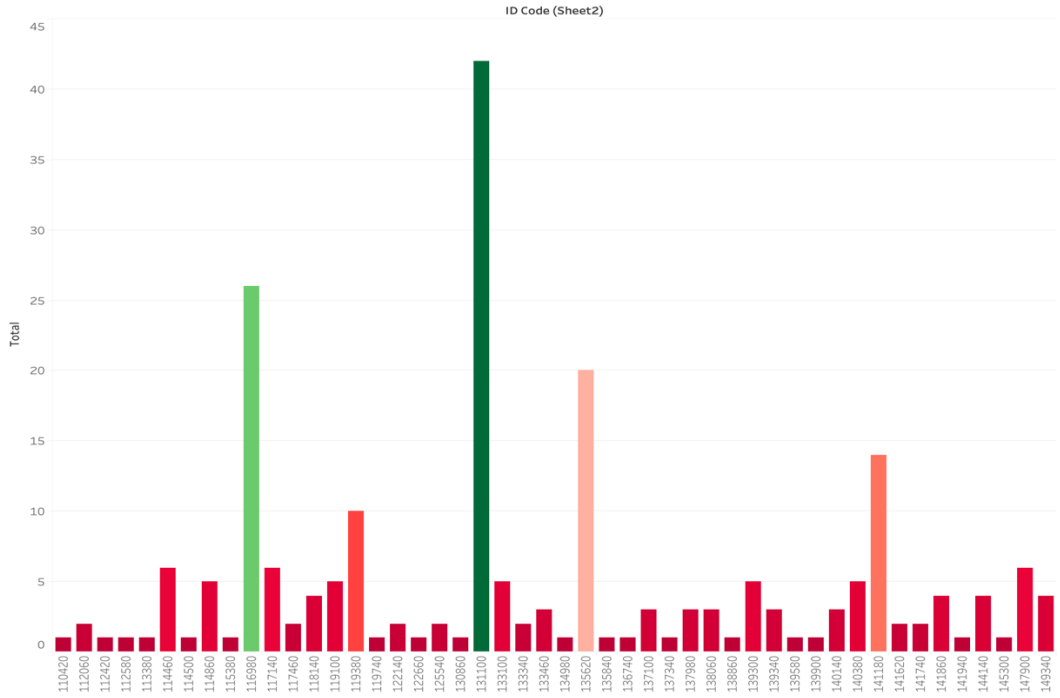


The above choropleth map represents the patent of year 2000 across (MSAs) United States. This is showcasing cities mapped by their states. Key data points have the city name, state and patent value of corresponding year and city. Different colors denote different country, helping to identify the clusters. Areas like California, New York has active innovation centers of patent activity.

2. Patents Pulse: 2015

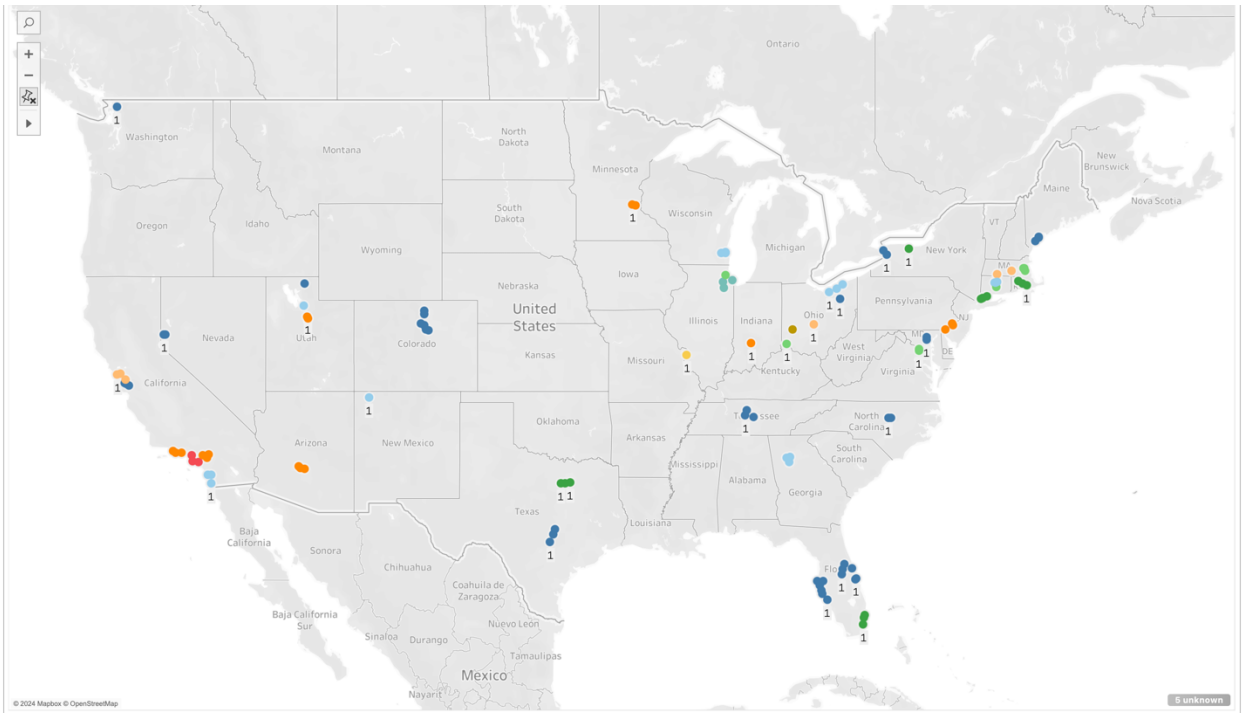
The above choropleth map represents the patent of year 2015 across (MSAs) United States. This is showcasing cities mapped by their states. The dataset integrates city and state information, resolving previous location to ensure accuracy. Different colors represent distinct regions. Key observations include high activity in regions like California, New York, and the Northeast, indicating these areas remain significant country. The map provides valuable insights into how innovation hotspots evolve in the time.

3. ID Codes Unveiled: Total Impact Bar Chart

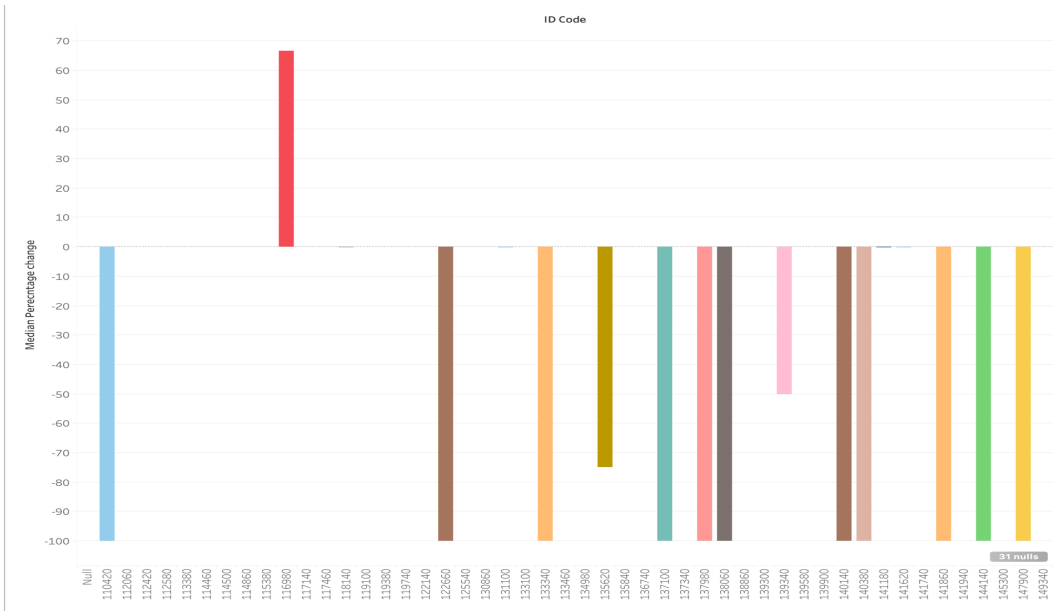


The above bar chart represents ID code showing the distribution of total innovation impacts across various ID Codes for all the years. Each bar represents an ID code, with the height showing the total impact value. Few ID codes (115600 and 133300) stand out with higher totals. Most ID codes display lower impact levels. The visualization effectively highlights disparities in innovation, making it valuable tool for identifying leading sectors in all the years

4. Shifting Trends in Patents (2000-2015)

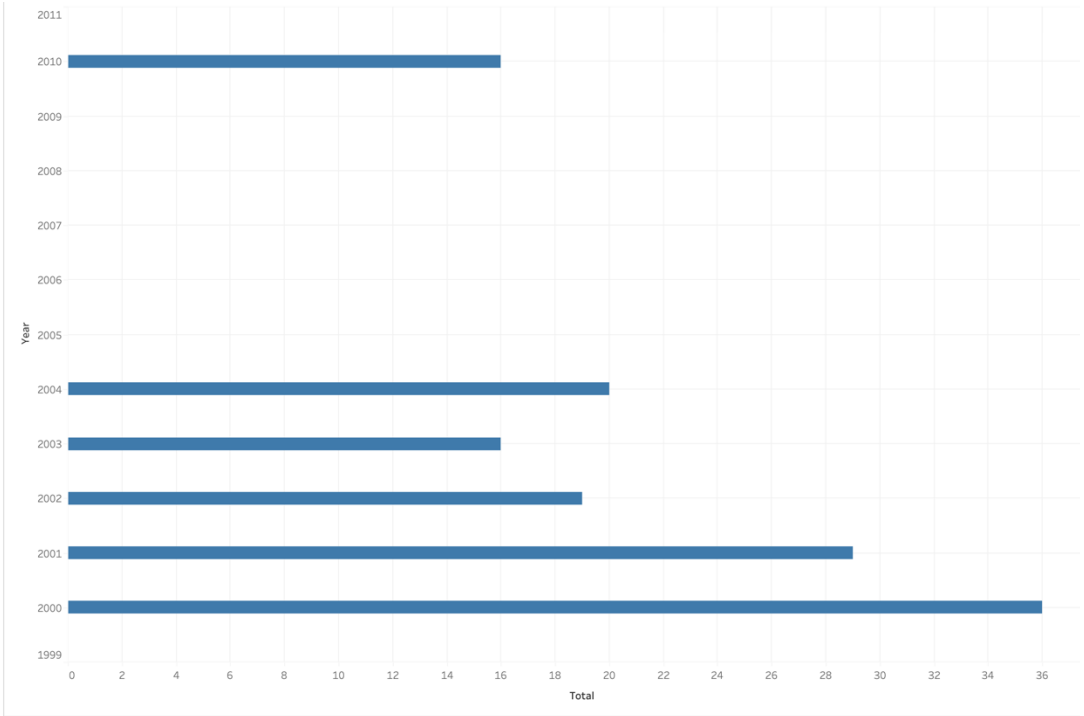


The above choropleth map represents the patents across the United States between 2000 and 2015. Each dot on the map shows city. The color denotes the patent count over the specified period. Larger dots indicate higher number patents while smaller one shows lower activity. The insights include a concentration of patent activity in states like California, Texas and New York dominates other states. States like Washington, Florida shows smaller scale. The use of color and sizes helps in identifying pattern. Years filters allow dynamic analysis, giving clear understanding in shifts.



The above bar chart shows difference of represents the patents across the United States between 2000 and 2015 of all the ID Codes.

5. Top 5 Years by Total



The above bar chart shows the Top 5 Years by total for patent activity

with each bar indicating the total count of patents during respective years. The highest activity is observed in 2000, with surpassing 35 patents, followed closely by 2004 and 2005.The data shows a steady performance in early 2000s, with slight fluctuation between the years.