

## Assignment 4: Becoming an Independent Data Scientist

### 1 Region and Domain

**State the region and the domain category that your data sets are about.**

Farmington, Michigan, United States and Religion expansion.

### 2 Research Question

**You must state a question about the domain category and region that you identified as being interesting.**

How have the number of churches built in Farmington increased depending on the population evolution and over the last two centuries?

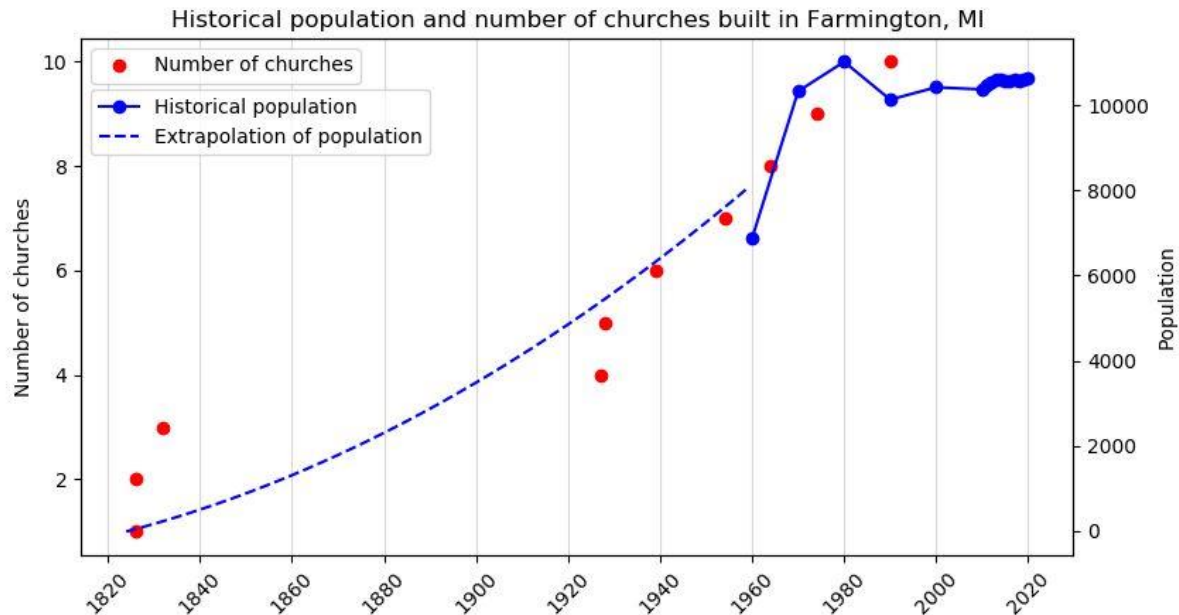
### 3 Links

**You must provide at least two links to publicly accessible datasets. These could be links to files such as CSV or Excel files, or links to websites which might have data in tabular form, such as Wikipedia pages.**

- <https://github.com/cestastanford/historical-us-city-populations/tree/master/data>
- <https://www.ci.farmington.mi.us/Community/History.aspx#:~:text=Farmington%20was%20first%20settled%20in,several%20years%20later%20in%201828.>
- <https://worldpopulationreview.com/us-cities/farmington-mi-population>
- [https://www.yelp.com/search?cflt=churches&find\\_loc=Farmington%20Hills%2C%20MI&l=g%3A-83.34164188498292%2C42.491459489959816%2C-83.40060756796632%2C42.44042721971273](https://www.yelp.com/search?cflt=churches&find_loc=Farmington%20Hills%2C%20MI&l=g%3A-83.34164188498292%2C42.491459489959816%2C-83.40060756796632%2C42.44042721971273) (web scraping)
- <https://github.com/RomainChiaraviglio/Farmington-Churches-vs-Population/upload>

## 4 Image

You must upload an image which addresses the research question you stated. In addition to addressing the question, this visual should follow Cairo's principles of truthfulness, functionality, beauty, and insightfulness.



## 5 Discussion

You must contribute a short (1-2 paragraph) written justification of how your visualization addresses your stated research question.

This visualization was concerned with answering the question of how the number of churches built in Farmington increased depending on the population evolution and over the last two centuries.

The population before 1960 is extrapolated with a 2<sup>nd</sup> order regression. The data concerning the number of churches is gathered by web scraping.

Farmington was first settled in 1824 by Arthur Power, three religious building were then erected at the same period to fulfill the needs of each religion. Between 1820 and 1920 the number of churches doesn't seem to be related to the population number, but by the need to start the religion.

However, in the second part, from 1920 until today, we can clearly see that the number of new churches built is following the growth of the population: the presence of more people implies the need of more religious space and it may also mean the development of new religions with a need of a place to operate.

The population in Farmington MI tends to stabilize itself around 10.500 person in the last decade, which means, if we follow this logic, that the number of new churches should stabilize itself too.