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EN 605.662 Data Visualization

Final Project Literature Survey

I. Introduction

With my topic for the final project: Integrate data visualization concepts and skills with publicly available COVID-19 datasets, I researched web articles related to the way to visualize this dataset and how the author/creator of the visualizations intend to tell and explain the story behind the data. In the next section, I will introduce some web articles with their contents and major contributions, which are very helpful while I am working on the final project.

II. Bibliography

1. Mathieson, SA. *Covid-19 and the art and science of data visualization.* ComputerWeekly.com, 2021 https://www.computerweekly.com/feature/Covid-19-and-the-art-and-science-of-data-visualisation

   In this article, the author Mathieson provides real-life examples of the data visualization of COVID-19 data. These visualizations from the examples are built by researchers and professionals, and presented to a wide variety of the audience. However, some of the visuals caused misunderstandings and misleadings. Mathieson also gives his analysis and opinion on the art and science of visualizing the pandemic: “the Covid-19 pandemic has seen political leaders and civil servants using data visualisation to describe the situation

and justify their decisions. But it has also demonstrated that while software makes it easy to turn numbers into pictures, it requires skilled humans to do this well."

2. Kennedy, Helen. *Data visualizations are key to COVID-19 communication, but we still don't understand their impact.* The London School of Economics and Political Science, 2020. https://blogs.lse.ac.uk/impactofsocialsciences/2020/05/04/simple-data-visualisations-have-become-key-to-communicating-about-the-covid-19-pandemic-but-we-know-little-about-their-impact/

   Kennedy's article on the data visualizations offers the author's idea on how data visualizations have become popular and familiar for a wider audience during the COVID-19 pandemic. Besides, she observes sometimes data visualizations are biased, not neutral. The author points out "The data on which visualisations are based are also not neutral. Human decisions influence and shape data, as well as their visual representation. Data are never 'raw': the very concept of raw data, as Geoffrey Bowker put it, is an oxymoron.".

3. Gardner, Betsy. *Best Practices for COVID-19 Data Visualizations.* Data-Smart City Solutions, 2020. https://datasmart.ash.harvard.edu/news/article/best-practices-covid-19-data-visualizations

   In this article, Gardner introduces the best practices for visualizing COVID-19 data, while misinformation about the coronavirus is spreading almost as fast as the virus itself. In order to avoid the misinformation, along with some examples of visualizations

presented by state governments, the author lists the best practices as: 1. CLearly explain labels and terms. 2. Be consistent with how things are counted. 3. Show trends over time instead of just a snapshot. 4. Include population totals.

4. Sakai, Ryu. *What I Learned From COVID-19 Data Visualization.* Nightingale, 2020. https://medium.com/nightingale/what-i-learned-from-covid-19-data-visualization-5c684eaa4698

   This web article introduces many examples of data visualizations of COVID-19 data. Since today we are flooded with all sorts of COVID-19 related data and the data can be visualized in many different ways, the UX designer, Sakai, provides his analysis on the visualizations, and some of his recreation of the visuals. This article also contains the editor's note by Amanda Makulec from a public health perspective.