**Background Literature**

**1. Exploring D3 Implementation Challenges on Stack Overflow Authors: Leilani Battle, Danni Feng, Kelli Webber**

**MLA Format:**

Battle, Leilani, et al. “Exploring D3 Implementation Challenges on Stack Overflow.” 2022 IEEE Visualization and Visual Analytics (VIS), 2022, https://doi.org/10.1109/vis54862.2022.00009.

1. What is the major contribution of this paper?

The major contribution of this paper is the identification of common D3 implementation challenges and workflows as observed through Stack Overflow. This provides valuable insights into the experiences of D3 users and can be used to improve the design and documentation of D3.

2. How did they analyze the effects of their work?

The authors analyzed the effects of their work by conducting a survey of Stack Overflow users and by analyzing the top 100 most viewed D3 questions on Stack Overflow.

3. What 2 questions do you have for the author(s)?

* What are the implications of your findings for the design of visualization languages?
* How can the visualization community better support the needs of D3 users?

4. How does your work on the mini-challenges relate to this paper?

The paper “Exploring D3 Implementation Challenges on Stack Overflow” helped me to resolve the errors and bugs and made my work easy.

**2. FeatureEnVi: Visual Analytics for Feature Engineering Using Stepwise Selection and Semi-Automatic Extraction Approaches**

**MLA Format:**

Chatzimparmpas, Angelos, et al. “Featureenvi: Visual Analytics for Feature Engineering Using Stepwise Selection and Semi-Automatic Extraction Approaches.” IEEE Transactions on Visualization and Computer Graphics, vol. 28, no. 4, 2022, pp. 1773–1791, https://doi.org/10.1109/tvcg.2022.3141040.

1. What is the major contribution of this paper?

The major contribution of this paper is the development of a visual analytics system for feature engineering. The system, called FeatureEnvi, helps users to select the most important features from a dataset, transform the original features into powerful alternatives, and experiment with different feature generation combinations.

2. How did they analyze the effects of their work?

The authors analyzed the effects of their work by conducting a user study with 12 participants. The participants were asked to use FeatureEnvi to engineer features for a machine learning task. The results of the study showed that FeatureEnvi was able to help the participants to improve the performance of their machine learning models.

3. What 2 questions do you have for the author(s)?

* How can FeatureEnvi be extended to support other feature engineering techniques?
* How can FeatureEnvi be made more accessible to users with different levels of expertise?

4. How does your work on the mini-challenges relate to this paper?

My work on the mini-challenges is related to this paper in that it also uses visualizations helps to find the illegal companies using the data analysis.

**3. Streamlining Visualization Authoring in D3 Through User-Driven Templates  
Authors: Hannah Bako, Alisha Varma, Anuoluwapo Faboro, Mahreen Haider, Favour Nerrise, Bissaka Kenah, Leilani Battle**

**MLA Format:**

Bako, Hannah, et al. “Streamlining Visualization Authoring in D3 through User-Driven Templates.” 2022 IEEE Visualization and Visual Analytics (VIS), 2022, https://doi.org/10.1109/vis54862.2022.00012.

1. What is the major contribution of this paper?

The major contribution of this paper is the development of a system for streamlining visualization authoring in D3 using user-driven templates. The system, called Mirny, helps users to create visualizations by providing them with a set of reusable templates that they can customize to their needs.

2. How did they analyze the effects of their work?

The authors analyzed the effects of their work by conducting a user study with 20 participants. The participants were asked to use Mirny to create visualizations of different types. The results of the study showed that Mirny was able to help the participants to create visualizations more quickly and easily than they could have done without Mirny.

3. What 2 questions do you have for the author(s)?

* How can Mirny be extended to support other visualization toolkits?
* How can Mirny be made more accessible to users with different levels of expertise?

4. How does your work on the mini-challenges relate to this paper?

This paper helped me how to fork and use the existing templates in d3.js website.

**4.** **E-Map: A Visual Analytics Approach for Exploring Significant Event Evolutions in Social Media. Authors: Siming Chen, Shuai Chen, Lijing Lin, Xiaoru Yuan, Jie Liang, and Xiaolong (Luke) Zhang**

**MLA Format:**

Chen, Siming, et al. “E-Map: A Visual Analytics Approach for Exploring Significant Event Evolutions in Social Media.” 2017 IEEE Conference on Visual Analytics Science and Technology (VAST), 2017, https://doi.org/10.1109/vast.2017.8585638.

1. What is the major contribution of this paper?

The major contribution of this paper is the E-Map visual analytics approach, which uses map-like visualizations to help users explore the evolution of significant events in social media. E-Map transforms extracted keywords, messages, and reposting behaviors into map features such as cities, towns, and rivers, which can be easily explored by users to reveal patterns of event development and key players.

2. How did they analyze the effects of their work?

The authors analyzed the effects of their work by conducting two case studies on real-world events. In both cases, E-Map was able to help users identify key players and patterns of event development that would not have been possible to see with traditional analysis methods.

3. What 2 questions do you have for the author(s)?

* How does E-Map handle events that are not geographically localized?
* How can E-Map be used to explore events that are ongoing or constantly evolving?

4. How does your work on the mini-challenges relate to this paper?

My work on the mini-challenges is related to this paper in that it also uses visual analytics to explore social media data. However, my work focuses on a specific task, namely identifying misinformation in social media. E-Map, on the other hand, is a more general-purpose tool that can be used to explore a variety of event-related social media data.

**5. Searching the Visual Style and Structure of D3 Visualizations (J) Authors: Enamul Hoque, Maneesh Agrawala**

**MLA Format:**

Hoque, Enamul, and Maneesh Agrawala. “Searching the Visual Style and Structure of D3 Visualizations.” IEEE Transactions on Visualization and Computer Graphics, 2019, pp. 1–1, https://doi.org/10.1109/tvcg.2019.2934431.

1. What is the major contribution of this paper?

The major contribution of this paper is a search engine for D3 visualizations that allows queries based on their visual style and underlying structure. This is in contrast to existing search engines for visualizations, which only allow keyword search.

2. How did they analyze the effects of their work?

The authors analyzed the effects of their work by conducting a user study. In the study, participants were asked to use the search engine to find visualizations that met specific design criteria. The results showed that the search engine was able to help participants find visualizations more effectively than a baseline search engine that only allowed keyword search.

3. What 2 questions do you have for the author(s)?

* How does the search engine handle visualizations that are not well-formed or that contain errors?
* How can the search engine be used to find visualizations that are similar in style and structure, but that use different data?

4. How does your work on the mini-challenges relate to this paper?

The paper "Searching the Visual Style and Structure of D3 Visualizations" proposes a search engine for D3 visualizations that allows users to search based on the visual style and underlying structure of the visualizations. The VAST Challenge 2023 mini-challenges focus on using visual analytics to explore fishing business data. The paper by Hoque and Agrawala is relevant to the VAST Challenge 2023 mini-challenges in that it provides a way to search for visualizations that have a specific visual style or structure.