**Paper:**

WORLDMAPPER: the world as you’ve never seen it before

**\* the concept**

The concept of this paper is to provide the world map visualization (The creation of flat, two-dimensional representations of our spherical, contoured planet, the cartographic projection) for different scenarios such as economic and social conditions, immigration percentage, tourism popularity or even the population of each countries. The broad idea of the visualization is to modify the countries, or to say the territories, depending upon how high or low they follow the scenarios which the visualization is describing.

**\* the implementation**

The paper collects data from trusted sources such as UNDP, UNEP, and CIA and many more. The data can be trusted. But there will be some missing data. For example, for calculating the population of each countries, some of the territories data might not exist. Then they sort of nonmaize, depending upon the average. This part of assumption, according to me, is misleading. May work for most of the visualization, but some cases, it would lead to misrepresentation.

**\*data characteristics**

I believe it’s a fascinating approach to segregate each territory to represent the data. The size of each territory plays a role of how big or less the particular scenario it belongs to. The more, the size of that territory will be big and the opposite. They used color consistently, which represents each territory depending upon it’s economic situations. I think they could have used color in a better way, say, by representing other parameter of the visualization (Size for one parameter and color for other). Then you effectively communicated two things at once.

**\*conclusion**

Intriguing technique to visualize world map. I found it very interesting approach. Even though they could have made it more interactive by adding zooming in factor, or by segmented region analysis, it still is better since they were only intended to fill posters and banners in schools and colleges for educating the world relations.

**Paper:**

Visual Analysis of Topic Competition on Social Media

**\* the concept**

How does a topic become salient on the public agenda? How does any public figure have influence on these topics to gain attention? Social media is increasing gaining importance in steering the public opinion. This visualization, ThemeRiver, helps in understanding the flow of topic’s attention in general public with the influence of public leaders and media.

**\* the implementation**

It’s a temporal flow visualization where it shows in timeline how the topic of discussion is influenced. They have considered the information diffusion, social media visualization and the temporal visualization to help in their visualization. The system design included the data collection from twitter and Facebook to query topics of discussion. Then analysis this data to find influencers and media. I found it very interesting that the design meticulously included the flow of topics in certain time frames, considering the influences and agenda setting.

**\*data characteristics**

Color is one of the factors in the ThemeRiver in which each of the colors, green, orange and blue, represents the type of influence (debates, media, political figures). Height determines the intensity of the topic. It’s like a river flowing with the width representing the intensity. I found it interesting to recognize the similarities in the flow to predict type of agenda and the people influencing. I think this is one of best visualization in these fields where you would like to analysis the similarities in strategies for elections or some other events, and I won’t think I could suggest much changes.

**\*conclusion**

Using visualization for facilitating the competition effect on the topic and agenda, and to create, understand the patterns is the visualization which could be used in the areas of politics, finances and other fields. This best describes each topic in one flow, RiverTheme, which is informative and not misleading.

**Paper:**

DeepCompare: Visual and Interactive Comparison of Deep Learning Model Performance

**\* the concept**

We have many machine learning algorithms to predict the model. The model could be text analysis, face recognition or any other real-world application. Some of the machine learning algorithms performs better than other for the particular scenario. But which one is better? Here, in this paper, they have developed the DeepCompare, which compares the two machine learning models (CNN and LSTM) to visualize the difference in their prediction at each neuron level.

**\* the implementation**

The inner working of the CNN or the LSTM is too difficult to understand. Many of these algorithms are black-box and there is a need of visualization. They interviewed with five of the machine learning experts to help understand the activation patterns in models to generalize the better working of each model. I believe, the data set is too low. Designing and implementing these models are very complex, and it’s done with lot of trial and error experiments. Only five of them can’t give us the generalized idea of the model. But with the two case studies, Movie Review Sentiment Analysis, and Answering Product Questions, I found the intent in providing this generalization. It’s all about which one of the models (CNN or LSTM) are correct at the given layer and with what accuracy.

**\*data characteristics**

They use the tree structure to distinguish between the ground truth and the prediction models. Color to distinguish between the positive and negative prediction. I believe this visualization is simple and easy to understand. Since, this is the interactive visualization, you can actually select the models and filter according to stage to compare to your needs.

**Paper:**

ForVizor: Visualizing Spatio-Temporal Team Formations in Soccer

**\* the concept**

Soccer is a sport in which the team formation matters the most. The game depends on how the players are actually positioned in the field. The formation could 4-2-2, 3-3-2 or could be 3-2-2-1. The formation choosing is the strategy for which the results of the game depends. This paper analyses the kinds of team formation the soccer game can have. Most of the visualization which has been dealt with this game is predominantly lower level information. That is the action of the player, movements, etc. But the higher-level information such as team formation is also important. This gives the spatial information which could help in analyzing the team strategy.

**\* the implementation**

The technique involved in this paper is to identify the initial formation of both the teams playing. Then as the game progresses, they take the aid of visual footage and determine the changes in team formation. This predominantly involves video tracking (for each player). The computer vision techniques particle filtering can be used for this purpose. This captures the relative distance covered by each player frame by frame. Then by using Least Square technique, they localized the positions in the spatial map which gives players movement.

**\*data characteristics**

It’s a spatial-temporal data designs for visualizing team formation. The tracked videos give the range of each player movement spatially. By tracking each player movement spatially, they segregated the region, subsequently identifying the team formation. I liked the idea of tracking each player in the video to make sure the region for the player is determined. This tool what they developed called ForVizor.

**\*conclusion**

I liked the idea of analyzing the video of the game, implement the player tracking, and use least square method to map the visualization. It’s an effective visualization for understating the tactics involved in the game. This is not just limited to soccer, any sports with team formation involved, such as, American football, Rugby, Cricket, can use this visualization for the understanding of the team formation.