“Academic Research Visualization”

Usually researchers in academia collaborate on their researches. This would reflect in the final published paper. Younger researchers normally start working with senior advisors as their students. During these works, each younger researcher gain knowledge about the domain his advisor is working and starts to expand one particular area of that. After graduating from school, those students joining academia starts to work on their own developed domain with their new students. This developed domain usually has much common parts with their previous research area as a student. Based on this, academic peoples are usually known for their works in specific part(s) or subject(s) of their area. I am suggesting developing a system to visualize these collaborations.

As you can see in the next graph, I have tried to visualize the papers being published by Pena-Mora. Others in the horizontal axis are people collaborating with him on those papers. For each other person, all his other papers have been analyzed and visualized. Vertical axis is used for the keywords selected by author for each of the papers. Different papers might have some common ones since usually author is working in specific domain. Circles have been used to demonstrate the results. The diameter of each circle shows the number of papers published by the author with that specific keyword. Color coding has been used to show when the last paper was published by the author. It is a symbol to show whether the author is still working on that specific keyword or not. Color intensity has been used to show how long the author has been working on that specific keyword. It is the difference between the date of the first and last published paper of the author containing the specific keyword.

The result could be used in many ways. As an example:

It could be understood from the visualization that Pena-Mora is the senior advisor of the group. He has more published paper than anybody else and has been working on the topic more than anybody else (the intensity of his circles are more than anybody else).

Han should have been his student who most probably decided not to work on any research after his graduation, since it seems that he hasn’t published anything afterwards.

Arboleda should have been working with Pena-Mora for a while but then continued working on “Decision Making” by himself. So he should have found a research position in which he is in charge.
Social Visualization Course Assignment: “Submit a web page describing a visualization of a group”

Size of circle: Number of papers published

- **Yellow:** older than 10 years
- **Red:** between [5,8] years old
- **Blue:** between [2,5] years old
- **Green:** within the past 2 years

Color Intensity: How long has the author worked on the topic?
More opacity: shorter period of time