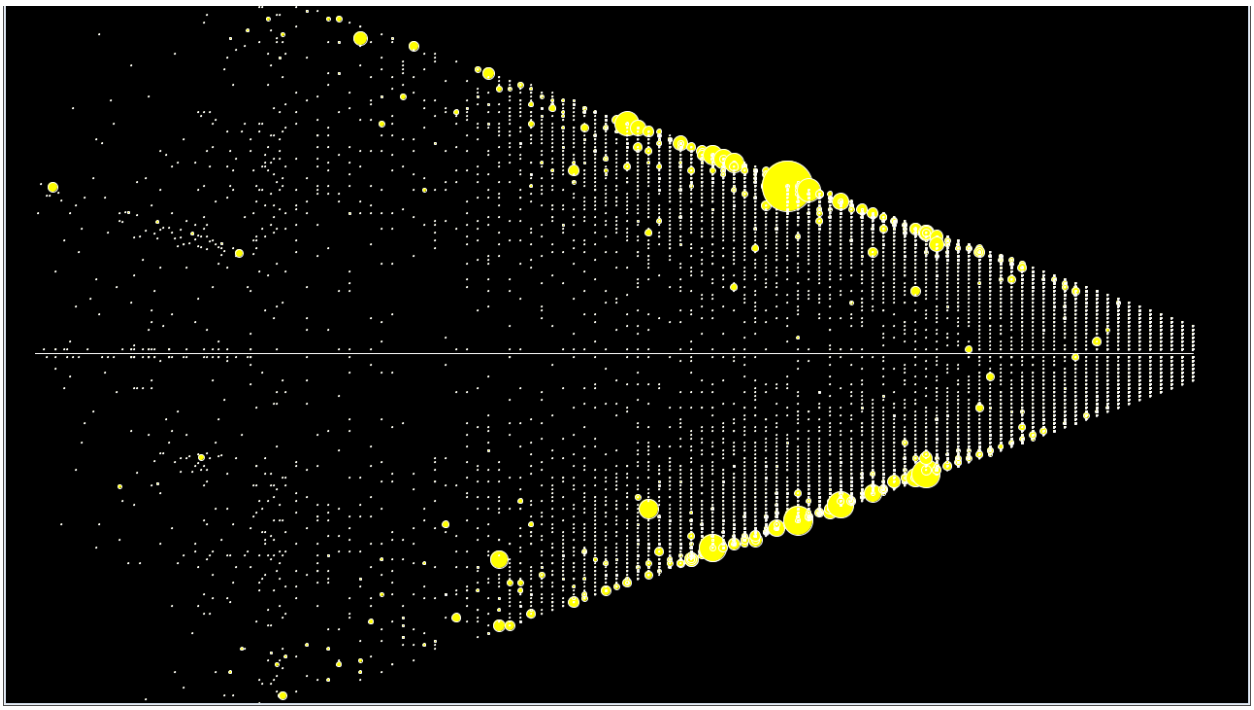
Shiny Stars in the Mathematic Sky



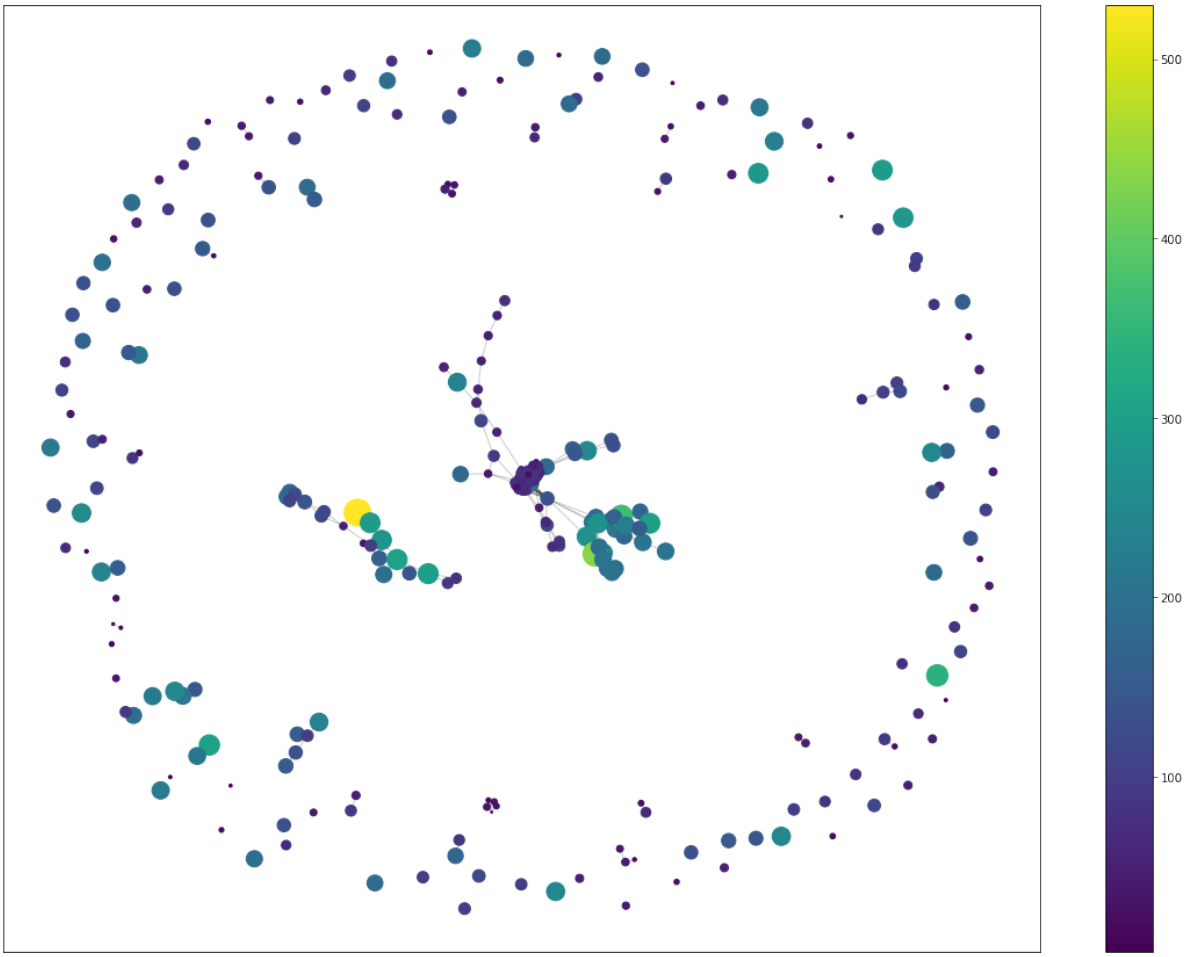
1. Legend

   This project is seeking for the impact of major and minor intellectuals in mathematic field since 1845. The main figure above contains the collection of 231, 930 mathematicians as a star (now it is white or yellow dot) shining in the river of history form the year when their first publication was born. The distance of an intellectual from the horizontal line (time series since 1845 to 2021) means the period of his/her academic career from first publication to last one. And the radius of each star is defined by number of citations during its whole career. [TODO] Randomly generate the positions of stars in one generation (about 30 years as a period), filter the intellectuals contribute more into other fields than mathematics.

2. Findings

   1. Major intellectuals appear at least once per generation (30 years). The major intellectual is who has at least 10, 000 citation and way greater than in the average citation of all intellectuals in that generation during the academic career. During 1850 to 1940, there are one intellectual per generation, but after that, the major one appears more frequently, about 1.67 per 30 years.

2. [TODO] Ideas created by a group of intellectuals not individual. My assumption is that the major mathematicians should be or close to the hub, which is the center of one subfield in mathematics they belong to.



For example, above figure has 316 mathematicians who contribute into the statistic related field. The node size and color indicate the total number of citations for each intellectual, and the edges are collaborative relationship between nodes. As the figure shown that the major one (with bigger size and lighter color) more likely connect to one cluster.