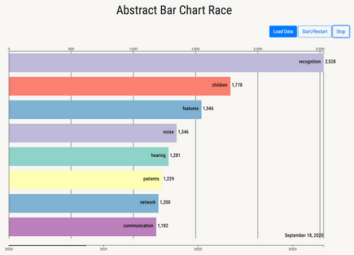
Introduction:
Most of us speak every day without knowing the power of deep learning in speech. As we are interested in carrying out signature work projects related to intelligent speech, it is crucial to clearly and concisely visualize the research papers related to speech in order to comprehend and monitor the development and trends in this subject. By visualizing the patterns and progress in speech research, we can better comprehend how the field is going and spot any potential roadblocks or issues that may arise. Visualization can also serve to simplify difficult ideas and provide users with a more intuitive understanding of advances in the recent research on speech recognition, verification, or synthesis. It is essential to stay current on the most recent trends and advancements, given the fast-paced nature of this industry, and visualization is a potent tool that can assist us in achieving this aim.

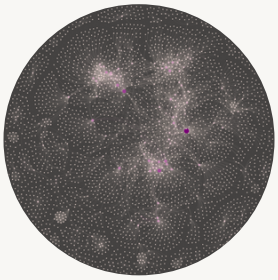
Word Cloud
This is an interactive word cloud that shows the Top 250 common terms in the abstract part of papers.

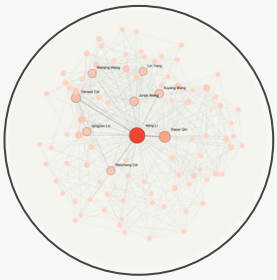
- The size of each word reflects the number of occurrences.
- Hover over the words to see the detailed data.



Bar Chart Race
This is a bar chart race visualization that dynamically displays the changes in word usage over time in the abstract section of research papers.

- The length of each bar reflects the number of occurrences.
- Press "Load Data" and "Start/Restart" buttons to generate the bar chart race.
- Press "Stop" button to stop the animation and see the accumulative most common 8 words at that time.





Network
The co-occurrence network was created using SigmaJS and Gephi. To streamline the network, only authors with papers in the top 100 citation count w ere included.

- Each node represents an author, with the size of the node reflecting its weighted degree.
- The color of each node corresponds to its weighted degree.
- Edges represent co-occurrence relationships between two authors.

The individual networks depict the detailed co-authorship of influential authors.

- The size of each node represents the number of collaborative papers published by the author.
- The edges in these networks display co-author relationships between authors, with thicker edges indicating stronger collaboration.

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SPEECH RESEARCH TREND VIS

A STATS401 FInal Project
https://vis.yueqianlin.com/

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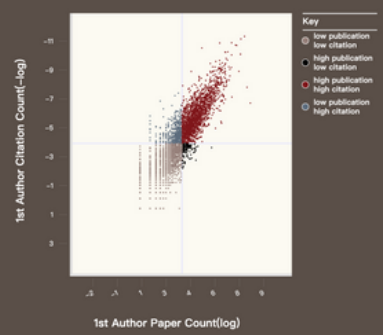
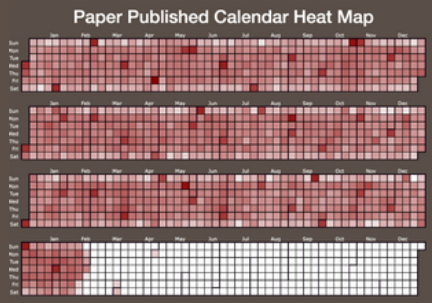


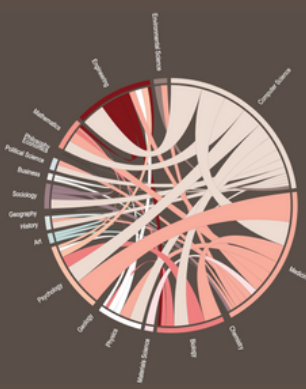
Quadrant Chart
This is an quadrant chart that shows the relationship between publication number and citation number of 1st author for 4500 papers collected.

- The dots are separated into 4 parts based on average values and colored with different colors.
- By clicking the dots, the viewer can see detailed information including the author name, publication number, and citation number.

Heatmap
This is an interactive heatmap that shows the relative number of papers published in each day in the past three years.

- Hover on the small blocks can see the date and the number of papers published that day. The darker the red in the block, the more paper pubished that day.
- Chick on the year can zoom and drag the calendar to see them more clearly.





Chord Diagram
This is an interactive chord diagram that shows the interdiscipline correlations between different fields of the academic papers related to "speech" in the past three years. We ignored the papers that is mono-field study, since they have no relationship with interdisciplinary studies.

- The color of the ribbons depends on the number of major fields in the interdisciplinary course. If A mainly acts as major field in interdisciplinary studies of A and B, then the color of the ribbon will be A's color.
- By clicking on different years, we can see the changes in the components of interdisciplinary fields.
- By hovering on the ribbons or the arcs, we can see the number of papers in the field.