

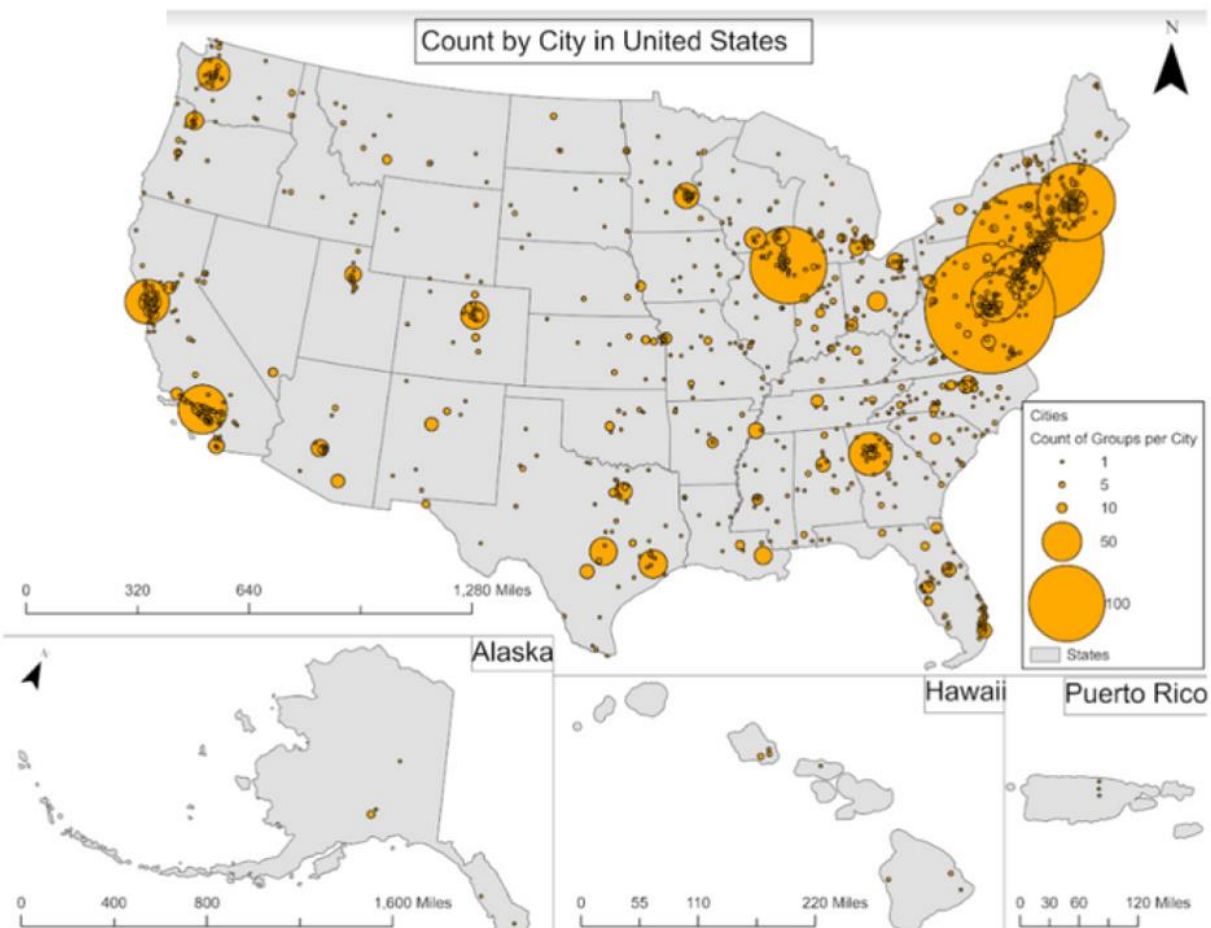
Using AI to Decode Funding Decisions

Project Background. We were contracted by a leading philanthropy organization to understand the key factors influencing funding decisions through a novel approach: machine learning. We utilized Natural Language Processing (NLP) to analyze over 4,000 grant applications submitted between 2013 and 2020. The aim was to identify trends, textual insights, and attributes that predict positive funding outcomes. This innovative project not only provided valuable insights for the organization's grant-making processes but also demonstrated the potential of NLP in philanthropy.

Evaluation Methods

The evaluation employed a combination of quantitative data, NLP techniques, and predictive modeling to analyze the grant applications. This comprehensive approach allowed for a deep dive into the data, uncovering patterns and insights that would be challenging to discern manually.

Descriptive Statistics: Frequency counts were calculated to analyze funding decisions, requested amounts, major sources of applicants, and funding distribution by year.



NLP Techniques:

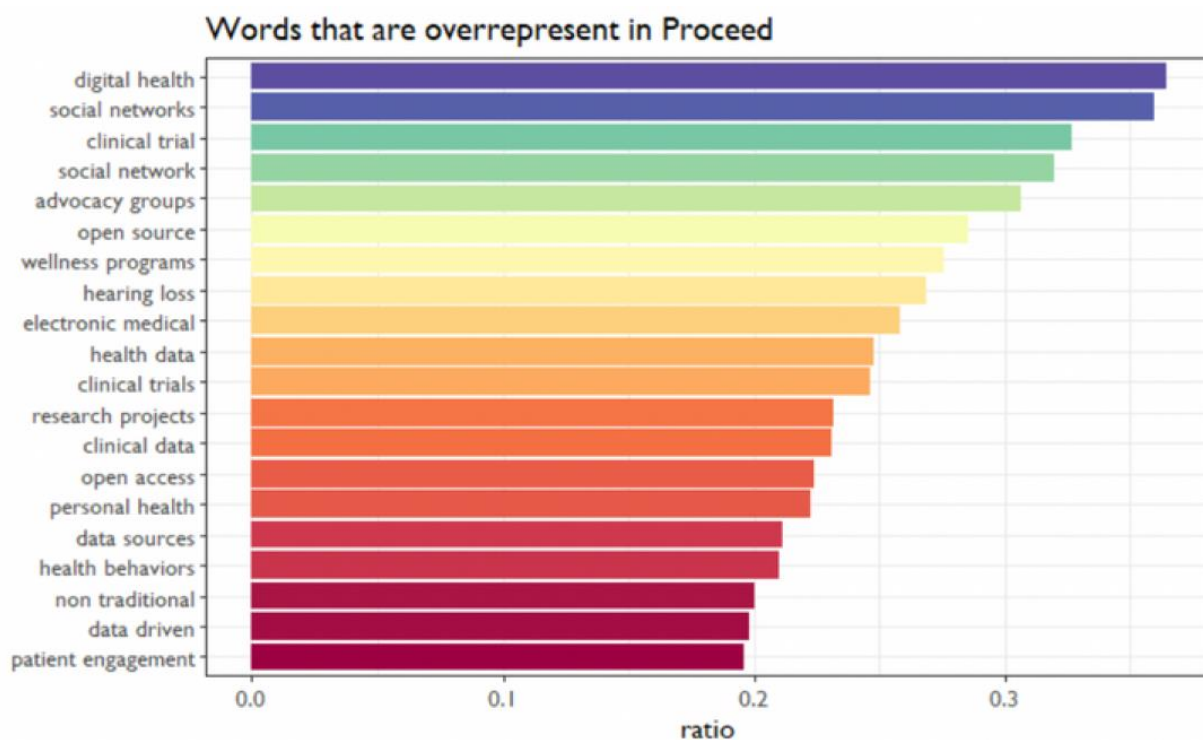


- **Bag of Words:** This method treated each word as a meaningful token, analyzing the frequency of word occurrence to understand the content of the applications.
- **Latent Dirichlet Allocation (LDA):** Topic modeling technique used to identify main ideas from the grant narratives. This helped in understanding the thematic structure of the applications.

Predictive Modeling: Eight predictive models and one neural network model were tested to identify attributes predictive of funding success. These models evaluated text features, narrative length, and requested funding amounts to determine their impact on funding decisions.

Key Findings

- **Trends in Funding Decisions:** The analysis revealed that the amount requested, the location, narrative length, or readability did not significantly predict funding outcomes. Instead, the presence of technology-related terms, "research," and alignment with the organization’s mission were more likely to result in funding.
- **Textual Insights:** The most common terms in funded applications included words related to health, community, and care. Topic modeling identified clusters such as health disparities, mental health, nutrition programs, and administrative aspects like information technology.
- **Predictive Attributes:** Technology-based terms and references to research were highly predictive of funding success. Conversely, terms like "services" and "training" were less likely to be associated with successful applications.

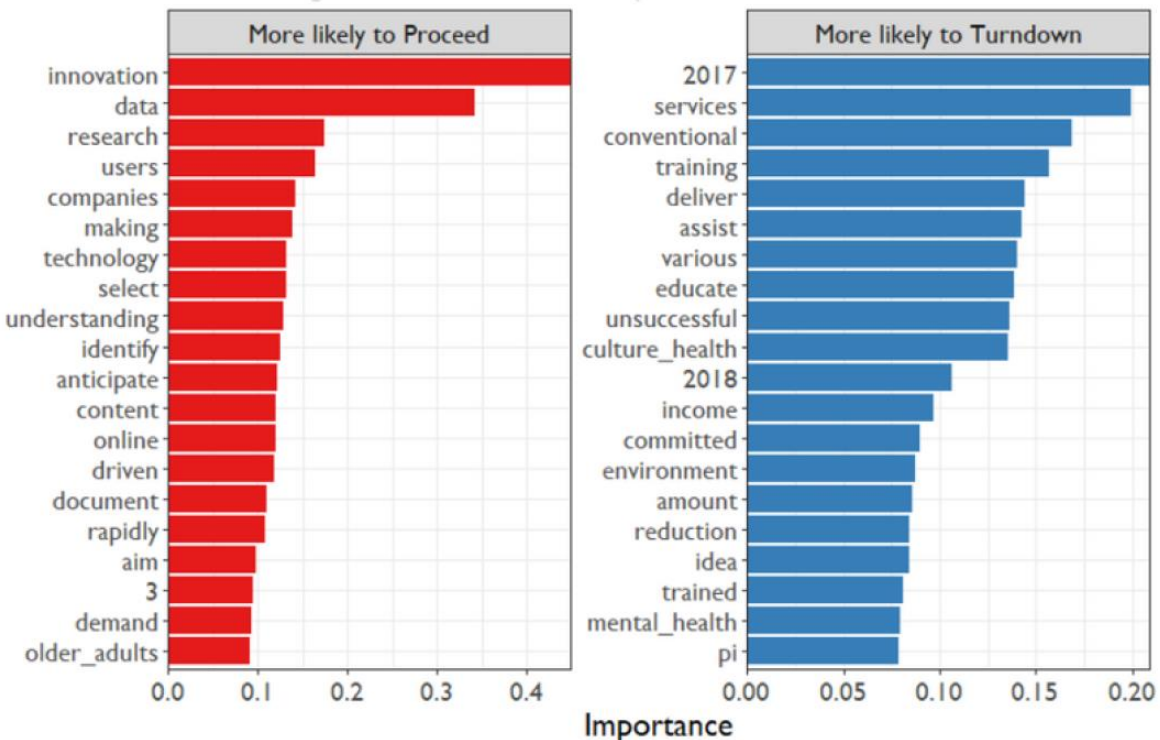




Contribution to Stakeholder Knowledge: The use of NLP and predictive modeling in this project provided several benefits:

- **Enhanced Understanding:** Stakeholders gained a clearer understanding of the factors influencing funding decisions, allowing for more informed and equitable grant-making processes.
- **Data-Informed Decision Making:** The insights from NLP analyses helped in identifying trends and patterns, enabling the organization to refine its funding criteria and improve transparency.
- **Innovative Methodology:** This project showcased the potential of NLP as a powerful tool for analyzing large volumes of text data, offering a scalable solution for philanthropic organizations.

Applicability of Methods: The methods used in the Creative Ideas Project can be applied across different evaluation projects to enhance understanding and decision-making. NLP techniques can efficiently process large datasets, uncovering valuable insights and patterns. By combining NLP with human expertise, organizations can ensure a comprehensive and nuanced analysis.



Reach out to us! Interested in applying these innovative methods to your evaluations? Let's work together to unlock insights and drive impactful change. Contact us at mel@dawnchorusgroup.com to explore how we can help enhance your grant-making processes with data-driven, NLP-powered evaluations.