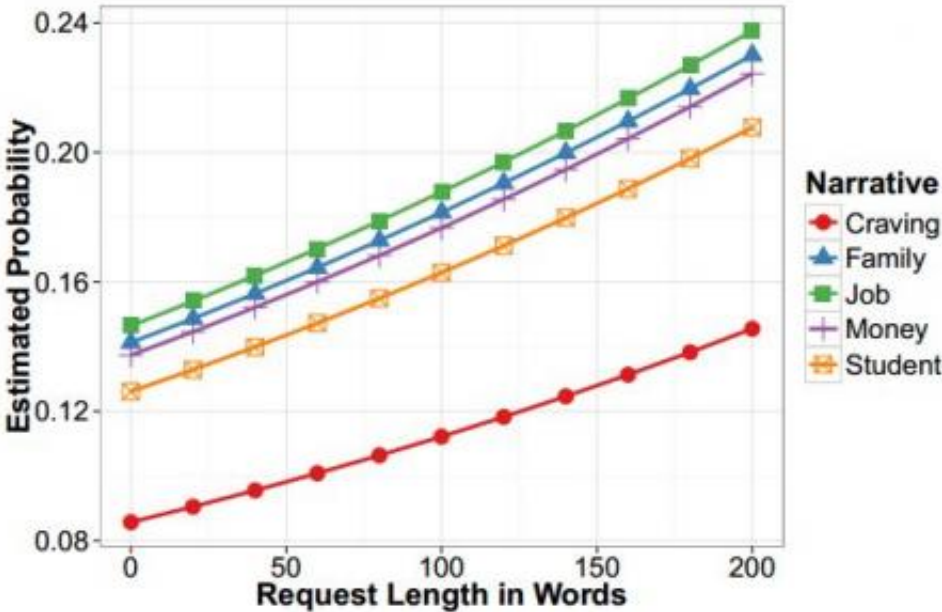


Data scientists analyze winning pizza donation requests

May 28 2014, by Nancy Owano



Estimated probability of success across request lengths for different narratives (top to bottom: Job, Family, Money, Student, Craving). Credit: arXiv:1405.3282 [cs.CL]

"We live in a time where people increasingly turn to the web for help... Yet, the factors that lead community members to satisfy a request remain largely unknown." Thus states a study by researchers at Stanford and the Max Planck Institute SWS who examined a data set of requests for donations of pizza to figure out what kinds of requests for favors

actually draw success.

Their paper, "How to Ask for a Favor: A Case Study on the Success of Altruistic Requests" submitted to arXiv on May 13, details how they structured their investigation and what conclusions they were able to draw, by using the Random Acts of Pizza section of the Reddit website as their testbed. Reporting on their work, MIT Technology Review noted that "psychologists have never understood the factors that make requests successful, largely because it has always been difficult to separate the influence of the request from what is being requested." While the question of what makes Web requests successful is far-reaching, the authors explained why they chose to hone in on a pizza-donation site for some answers.

Authors Tim Althoff, Cristian Danescu-Niculescu-Mizil and Dan Jurafsky said they studied donations in "[Random Acts of Pizza](#)" (an online community within the website Reddit.com) where strangers ask for free pizza. If requesting stories are compelling enough, a fellow user might respond. The site states that "Together, we aim to restore faith in humanity, one slice at a time." The researchers chose the site because all requests ask for the same thing and each request can be satisfied by a single user. They said, "users and requests are embedded in a social network within Reddit, and requests are largely textual. This dataset thus provides us with an unusually clear picture of the effect of language and social factors on success."

What kinds of requests, then, were found to be the most successful in getting a response?" What features characterize compelling requests? What is interesting about their study is that they not only explored how bidders were asking for pizza but also studied the role played in who was asking and how the recipient was related to the donor and community.

The authors found that community status was correlated with success.

Having posted before in RAOP had a strong positive effect. People were more apt to help users that contributed to the community in some form already. The authors wrote, "We find that Reddit users with higher status overall (higher karma) or higher status within the subcommunity (previous posts) are significantly more likely to receive help." Reciprocation was found to be another step to success. The authors said, "The language of reciprocity ('return the favor') is used in a variety of ways to signal the willingness to give back to the community by helping out another member in the future (generalized reciprocity). Such claims are significantly correlated with higher chances of success."

While an old saying is to keep narratives short and sweet the researchers found that longer requests tended to be more successful than short ones. "Longer requests," they said, "are significantly correlated with [success](#)." In analyzing the kind of narrative, the authors found narratives that clearly expressed need, such as for a job or money were more likely to succeed than narratives that did not (craving). Specifically, "job", "money", and "family" narratives were more likely to win than a "craving" narrative, which had a negative influence.

MIT Technology Review [commented](#) that "An important line of future work will be in using his work to understand altruistic behavior in other communities, too."

More information: How to Ask for a Favor: A Case Study on the Success of Altruistic Requests, arXiv:1405.3282 [cs.CL], arxiv.org/abs/1405.3282

Abstract

Requests are at the core of many social media systems such as question & answer sites and online philanthropy communities. While the success of such requests is critical to the success of the community, the factors that lead community members to satisfy a request are largely unknown.

Success of a request depends on factors like who is asking, how they are asking, when are they asking, and most critically what is being requested, ranging from small favors to substantial monetary donations. We present a case study of altruistic requests in an online community where all requests ask for the very same contribution and do not offer anything tangible in return, allowing us to disentangle what is requested from textual and social factors. Drawing from social psychology literature, we extract high-level social features from text that operationalize social relations between recipient and donor and demonstrate that these extracted relations are predictive of success. More specifically, we find that clearly communicating need through the narrative is essential and that linguistic indications of gratitude, evidentiality, and generalized reciprocity, as well as high status of the asker further increase the likelihood of success. Building on this understanding, we develop a model that can predict the success of unseen requests, significantly improving over several baselines. We link these findings to research in psychology on helping behavior, providing a basis for further analysis of success in social media systems.

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