Machine learning technologies have increased in popularity in the past few years due to the abundance of both structured and unstructured data that is pivotal in the functioning of intelligent algorithms. As a result, machine learning methods have been incorporated in almost every field from industrial manufacturing to activities as delicate as medical diagnostics. This report therefore outlines the applicability of machine learning methods in charity and community giving settings.

The need for charity and community giving is continuously growing given the ever-present challenges facing communities in different parts of the country. Both natural and man-made disasters are increasingly putting the livelihoods of millions into jeopardy, eventually forcing them to be reliant on charities and donations from communities to sustain themselves. While traditional methods of identifying vulnerable communities has proven to be successful in the past, the growing number of affected individuals has led to such methods being considered obsolete due to several shortcomings. One major assumption is that the traditional methods of donating to affecting communities is driven by bias since donors rely on untested methodologies to give their donations.

The incorporation of machine learning technologies therefore intends to address the challenge outlined previously by providing donors with data-driven insights on how to make their donations impactful to the targeted communities. Machine learning methodologies such as unsupervised learning can be used to find different categories of affected individuals in communities and subsequently use such categories to make informed donation decisions. With the abundance of demographic data, it is believed that unsupervised learning methods will discover patterns and trends among the individuals which can then be used to put them into common groups.

In conclusion, this discussion has highlighted that uninformed decision making is a challenge facing many charity activities in communities. Clustering is an unsupervised learning paradigm which has been proposed in this discussion as a potential approach to overcoming this challenge. The incorporation of clustering, given the growing volume of available data on vulnerable communities, is expected to improve the decision making process of donors therefore making charity and community donations more impactful.